UK MET OFFICE
GLOBAL DATA MONITORING REPORT

December 2005

Data Assimilation
Meteorological Office
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1. Introduction

As the WMO-appointed lead centre for monitoring surface marine data, the U.K. Meteorological Office produces monthly statistics on the quality of these observations received at RSMC Exeter. This report includes this information along with statistics for most other types of data. The figures and tables contained herein are presented according to the agreed standards for the exchange of monitoring results.

The report is based on data received at the UK Meteorological Office Headquarters, Exeter in time for inclusion into the appropriate analysis (the current cut-off time is approximately 7.2 hours after each analysis time). The evaluation of data quality is based on comparison with the appropriate 6-hour global model forecast (background) field, although to provide background values valid at the observation time for non-main hour data, time-interpolation of the T+3, T+6 and T+9 forecasts is used; and for sea surface temperature the background field is the analysis from the previous day. Generally, the background field is of high quality except in data sparse areas, tropical regions and areas close to steep orography where care should be taken in interpreting the statistics shown.

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2 Global Data Monitoring Statistics

Ships, Fixed buoys, Platforms and Drifting buoys observations

TABLES 1and 2 contain lists of the stations which are considered to have returned suspect observations of pressure, windspeed, wind direction or sea surface temperature, as appropriate, during the month. The criteria for quality control are given on the header page for each table.

Figures 1 and 2 show 10 degree lat/long box average numbers of SHIP/SYNOP and DRIFTER observations received per day throughout the month at Exeter and assimilated into model runs. All data are included. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

Synop Observations

Table 3 contains a list of stations which are considered to have returned suspect observations of Pressure during the month. The criteria for quality control are given in the header page. The reporting practice of each station is included in the list of statistics.

At the UK Met. Office, we monitor SYNOP pressure after it has been interpolated to our Global NWP Model's surface height. For most synoptic stations (about 75%), the surface pressure (at the model surface) is calculated from the reported station-level pressure, or, if this is not available, the height of a standard pressure-level (e.g. 850 hPa or 700 hPa). If neither of these are available, or if the reported station-level pressure is deemed unreliable, the reported mean sea-level pressure is used (about 25% of SYNOPs).

Aircraft observations

Tables 4A (300-150 hPa) and 4B (1000-301 hPa) contain lists of statistics calculated from data received from all airline carriers.

Figures 3A (300-150 hPa) and 3B (1000-301 hPa) show 10 degree lat/long box average numbers of aircraft reports in AIREP/AMDAR code (including AIREP, ACAR, AMDAR, ASDAR and ADS) received per day throughout the month at Exeter and assimilated into model runs. Observations with a vector wind difference (compared with the model background field) of >60 m s^{-1} have been excluded. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

Figures 4A-7A (300-150 hPa) and 4B-7B (1000-301 hPa) show wind statistics for AIREP/ASDAR in AIREP/AMDAR code (including AIREP, ACAR, AMDAR, ASDAR and ADS). Observations with a vector wind difference > 60 m s^{-1} have been excluded. Statistics have not been calculated for 10 degree lat/long boxes containing <31 observations.

Figure	Parameter
4	Mean wind vectors
5	Mean observation - background wind vector
6	Mean observation-background speed (m s^{-1})
7	RMS observation-background vector (m s^{-1})

Radiosonde Observations

TABLES 5-7 contain lists of the stations which are considered to have returned suspect observations of geopotential height, vector wind or wind direction, as appropriate, during the month. The criteria for quality control are given on the header page for each table.

Figures 8 and 9 show 10 degree lat/long box average numbers of TEMP 500 hPa GEOPOTENTIAL HEIGHT and TEMP/PILOT 300 hPa WIND observations received per day throughout the month at Exeter and assimilated into model runs. Data from all hours are included. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

APPENDIX I shows details of the gross error limits used in TABLES 5 and 6 and the weights used in the RMS values in TABLE 5.

Satellite Observations

Figures 10-24 show satellite wind statistics for all geostationary satellites. All plots other than **AVAILABILITY** show average data where there are > 10 observations in a 10 degree lat/long box.

Figure	Parameter Plotted	Layer (hPa)
10	Availability/average daily number	701-1000
11	Vector mean wind (observed)	701-1000
12	Observation-background vector wind difference	701-1000
13	Mean observation-background speed differences	701-1000
14	RMS observation-background vector difference	701-1000
15	Availability/average daily number	401-700
16	Vector mean wind (observed)	401-700
17	Observation-background vector wind difference	401-700
18	Mean observation-background speed differences	401-700
19	RMS observation-background vector difference	401-700
20	Availability/average daily number	101-400
21	Vector mean wind (observed)	101-400
22	Observation-background vector wind difference	101-400
23	Mean observation-background speed differences	101-400
24	RMS observation-background vector difference	101-400

Figures 25-39 show sounding statistics from the polar orbitting satellite NOAA-15. Figure 25 shows the mean daily number of ATOVS soundings, and figures 26-39 show mean and standard deviation observation-background differences for brightness temperature, for selected channels.

Figure		Weighting function peak (hPa)
26	Mean	Surface (HIRS8)
27	SD	Surface (HIRS8)
28	Mean	700 (HIRS15)
29	SD	700 (HIRS15)
30	Mean	500-700 (HIRS11)
31	SD	500-700 (HIRS11)
32	Mean	400 (HIRS4)
33	SD	400 (HIRS4)
34	Mean	700 (AMSUA5)
35	SD	700 (AMSUA5)
36	Mean	300 (AMSUA7)
37	SD	300 (AMSUA7)
38	Mean	100 (AMSUA9)
39	RMS	100 (AMSUA9)

Figures 40-54 show sounding statistics from the polar orbitting satellite NOAA-16. Figure 40 shows the mean daily number of ATOVS soundings, and figures 41-54 show mean and standard deviation observation-background differences for brightness temperature, for selected channels.

Figure		Weighting function peak (hPa)
41	Mean	Surface (HIRS8)
42	SD	Surface (HIRS8)
43	Mean	700 (HIRS15)
44	SD	700 (HIRS15)
45	Mean	500-700 (HIRS11)
46	SD	500-700 (HIRS11)
47	Mean	400 (HIRS4)
48	SD	400 (HIRS4)
49	Mean	700 (AMSUA5)
50	SD	700 (AMSUA5)
51	Mean	300 (AMSUA7)
52	SD	300 (AMSUA7)
53	Mean	100 (AMSUA9)
54	RMS	100 (AMSUA9)

Figures 55-69 show sounding statistics from the polar orbitting satellite NOAA-17. Figure 55 shows the mean daily number of ATOVS soundings, and figures 56-69 show mean and standard deviation observation-background differences for brightness temperature for selected channels.

Figure		Weighting function peak (hPa)
56	Mean	Surface (HIRS8)
57	SD	Surface (HIRS8)
58	Mean	700 (HIRS15)
59	SD	700 (HIRS15)
60	Mean	500-700 (HIRS11)
61	SD	500-700 (HIRS11)
62	Mean	400 (HIRS4)
63	SD	400 (HIRS4)
64	Mean	700 (AMSUA5)
65	SD	700 (AMSUA5)
66	Mean	300 (AMSUA7)
67	SD	300 (AMSUA7)
68	Mean	100 (AMSUA9)
69	RMS	100 (AMSUA9)

N.B. All satellite sounding data is bias-corrected (and thinned) before being assimilated in the UKMO NWP model.

3 Composite Observing Systems for the North Atlantic (COSNA)

This section shows statistics for upper air (radiosonde and aircraft) and surface (drifter) data for the North Atlantic area for data received at Exeter during the month.

TABLE 8 shows quality statistics for **Mean Sea-level Pressure, Windspeed and Wind Direction** received at Exeter in DRIFTER code during the month for the area 10°N - 80°N, 85°W - 0°W.

TABLE 9 shows quality statistics for **Temperature and Vector Wind** received at Exeter from aircraft during the month for the area 40°N - 70°N, 60°W - 0°W.

Table 10 - 13 show quality statistics **(Geopotential Height and Windspeed at 100 and 500 hPa)** for all TEMPSHIPS in the area bounded by 0°N - 90°N, 100°W - 40°E and selected TEMP stations within the same area.

Revisions

1. May 95 Monitoring statistics for NOAA-11 removed. Figures 25-27 now show data for NOAA-12
2. May 95 Notes giving details of observations included in wind direction statistics clarified and corrected.
3. August 95 Monitoring statistics for NOAA-14 added with figures 28-30.
4. February 96 Monitoring statistics for GOES-7 have been replaced by statistics for GOES-8 and GOES-9.
5. April 96. 500 km and 120 km SATEMs replaced by 120 km resolution temperature profiles produced locally from the radiances disseminated by NESDIS.
6. February 97 Monitoring statistics for Meteosat 5 have been replaced by statistics for Meteosat 6.
7. Sept 97 Monitoring statistics for NOAA-12 removed. Figures 25-27 now show data for NOAA-11
8. January 1998. Increase in resolution of UKMO global forecast model.
9. April 1998. GOES winds ceased on 2nd March 1998, and were replaced with GOES high resolution winds from 15th.
10. June 1998. Monitoring statistics for Meteosat-6 were replaced by monitoring statistics for Meteosat-7, from 3rd June.
11. June 1998. Corrections in our processing of radiosonde data resulted in a decrease in the number of 500hPa geopotential heights in Figure 8 of about 230 per 24 hours (compared with previous reports), and a small increase in the number of 300hPa winds in Figure 9.
12. July 1998. Meteosat-5 began transmitting winds from 2nd July, at 63 degrees East (over the Indian ocean), and this data is included in the statistics.
13. July 1998. GOES-9 (at 135W) was replaced mid-month by GOES-10 (initially at 105W, moving towards 135W).
14. February 1999. Problems with NOAA-11, and TOVS data ceased to be assimilated from 26 February.
15. March 1999. UKMO introduced 3-D VAR assimilation system on 29 March, and also began assimilating ATOVS data from NOAA-15.
16. May 1999. Included statistics for ATOVS sounding data from NOAA-15.
17. September 1999. Included statistics for high resolution visible winds from Meteosat-5 and Meteosat-7.
18. October 1999. The 3-D VAR assimilation system was upgraded on 19 October, including improvements in the assimilation of ATOVS radiances, use of SSM/I surface wind speed, an improvement in the calculation of surface pressure for SYNOPs, and thinning and revision of observation errors of aircraft data.
19. November 1999. High resolution visible winds from Meteosat-5 and Meteosat-7 removed until used operationally.
20. April 2000. Aireps in Table 4 and Figures 3-7 split into ranges 300-150 hPa (A) and 1000-301 hPa (B).
21. September 2000. Corrected an error affecting the mean positions of a minority of buoys in Table 2.
22. November 2000. An error in the production of Table 6 was corrected. Previously, some sondes with suspect vector winds were being missed.
23. April 2001. Included statistics for ATOVS sounding data from NOAA-16.
24. May 2001. Included statistics for sea surface temperatures from marine surface observations.
25. December 2002. Included statistics for ATOVS sounding data from NOAA-17.
26. December 2002. Meteosat-7 and Meteosat-5 SATOB winds replaced by higher resolution BUFR-coded winds.
27. November 2003. Included temperature and relative humidity statistics for ships, fixed buoys and platforms in Table 1.
28. November 2003. NOAA 17 statistics no longer available due to malfunction of the AMSU-A instrument.

TABLE 1

MONITORING OF MARINE SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - SHIPS, FIXED BUOYS AND PLATFORMS
MONITORING CENTRE: EXETER
MONTH: Dec 05

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for ships, fixed buoys and platforms.

Standard of comparison :Background field from UKMO global model.

Observation times :All hours

Elements monitored
:Mean sea level pressure (hPa).
:Wind speed (m s^{-1}).
:Wind direction (Degrees).
:Air temperature (Degrees C).
:Relative Humidity (%).
:Sea surface temperature (Degrees).

Parameters monitored

:NOBS :Number of observations received excluding duplicates.

:PGE :Percentage of observations with gross errors.

:%REJ :Percentage of observations flagged excluding those with gross errors.

:SD :SD of difference of observations from background values excluding those with gross errors.

:BIAS :Mean difference of observations from background values excluding those with gross errors.
N.B. a positive bias indicates the wind observation is veered to the background.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors.

GROSS ERROR LIMIT
:15 hPa (pressure)
:25 m s^{-1} (vector wind)
:15 degrees (air temperature)
:10 degrees (sea surface temperature)

SELECTION CRITERIA :NOBS ≥ 20 , and one or more of the following:

1.|bias|	≥ 4 hPa	(pressure),
	≥ 5 m s^{-1}	(wind speed),
	≥ 30 degrees	(direction).
	≥ 3 degrees	(sea surface temperature).
	≥ 4 degrees	(air temperature)
	≥ 15%	(relative humidity)
2.SD	≥ 6 hPa	(pressure),
	≥ 80 degrees	(direction).
	≥ 5 degrees	(sea surface temperature).
	≥ 6 degrees	(air temperature)
	≥ 25%	(relative humidity)
3.PGE	≥ 25	

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
A8FR5	P	39	0	51	1.3	4.6	4.8
C6FZ6	P	23	0	0	2.2	5.8	6.2
C6NL6	P	34	0	68	1.1	5.3	5.4
C6PZ3	P	44	0	41	1.0	5.6	5.7
C6UC3	P	35	0	100	1.2	9.1	9.2
DEHY	P	30	0	70	0.8	4.9	5.0
DQVO	P	33	0	18	0.8	-4.0	4.0
ELVX9	P	75	0	64	1.2	4.2	4.4
KS049	P	241	0	0	0.7	-4.4	4.5
PCFT	P	21	0	100	1.0	6.7	6.8
TESTFR1	P	21	100	100			
UCUF	P	38	53	89	8.8	4.5	9.9
UIFC	P	27	33	33	1.2	0.2	1.2
V2AW5	P	47	0	81	2.0	5.3	5.7
WAQ3521	P	42	5	98	2.8	-5.9	6.6
WDB9918	P	40	2	90	2.2	-5.5	5.9
ZCBN9	P	71	0	41	0.9	4.6	4.7
62402	P	43	0	77	3.4	4.2	5.4
9MBW7	P	23	0	57	4.7	-4.7	6.7

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
A8FI3	SPEED	42	0	48	4.6	5.5	7.2
A8GS3	SPEED	46	0	74	4.6	11.0	12.0
C6SI3	SPEED	30	3	100	2.6	5.1	5.7
C6ZU	SPEED	26	0	35	6.1	8.9	10.8
VEP717	SPEED	230	0	40	4.5	6.1	7.5
VRVP2	SPEED	32	41	66	4.2	4.7	6.4
62147	SPEED	39	0	54	3.4	6.4	7.2
62407	SPEED	25	0	52	4.6	6.2	7.7
9MBW7	SPEED	22	0	41	6.1	7.9	10.0
9MBX5	SPEED	27	15	59	6.9	10.4	12.5
9MCD3	SPEED	20	5	100	5.7	9.1	10.7
9MSM	SPEED	72	4	38	6.6	6.5	9.3

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
CFN3031	DIRN.	50	0	0	16.4	-89.1	90.6
KS044	DIRN.	34	0	0	25.0	-84.8	88.5
LAJV4	DIRN.	56	29	0	51.7	-31.0	60.2
VRVP2	DIRN.	20	65	0	103.4	28.8	107.3
23099	DIRN.	56	0	0	85.6	-19.1	87.7
41030	DIRN.	53	0	0	93.0	4.1	93.1
42040	DIRN.	391	0	0	24.7	-44.6	51.0
51021	DIRN.	30	0	0	99.6	-59.6	116.1
53057	DIRN.	77	0	0	164.9	-20.1	166.2
9VHB9	DIRN.	26	0	0	61.4	37.0	71.7

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
CYLY	T	26	0	100	3.4	4.7	5.8
NBTM	T	53	6	100	3.3	7.3	8.0
SP34	T	122	2	100	3.6	-5.6	6.6
TESTFR1	T	22	86	100	0.5	13.1	13.1
UCJJ	T	68	0	100	3.2	-4.5	5.5
UCKH	T	37	0	100	3.8	-4.8	6.1
UCUF	T	38	13	100	5.7	6.3	8.5
UDDD	T	59	0	100	3.6	4.0	5.4
UITJ	T	28	0	100	1.4	-4.0	4.2
VAAZ	T	58	69	100	1.9	-11.8	11.9
WCW9126	T	46	4	100	4.9	4.3	6.5
13010	T	53	0	100	3.9	4.0	5.6
44139	T	741	0	100	1.0	5.2	5.3

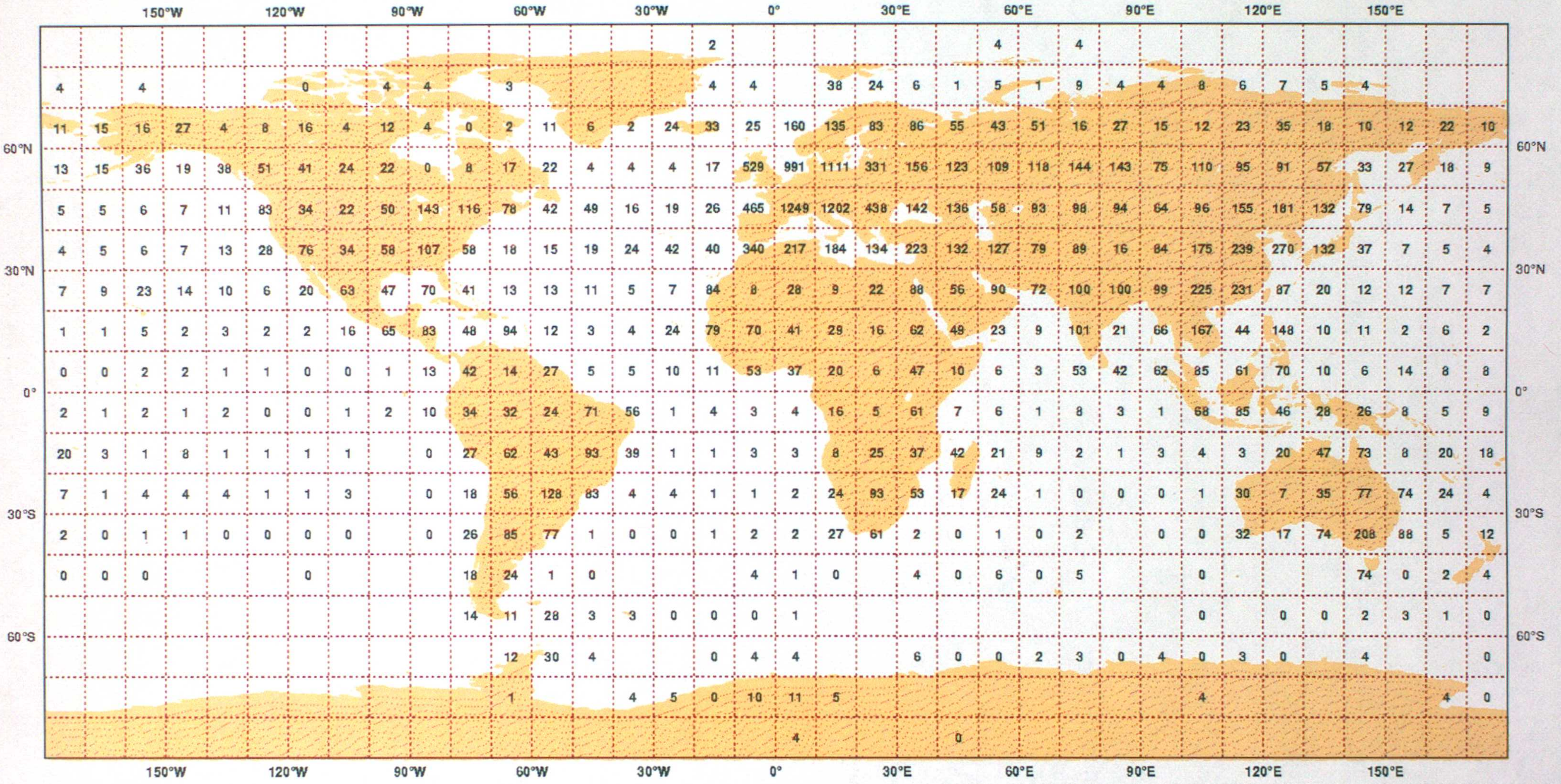
46081	T	733	1	100	2.8	4.0	4.9
46088	T	444	0	100	2.3	4.4	4.9
46131	T	742	0	100	1.9	4.7	5.1
46146	T	740	0	100	1.8	4.8	5.1

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
A8CK2	RH	20	0	100	13.0	-15.1	20.0
CFN3031	RH	28	0	100	5.0	18.2	18.9
C6KD7	RH	38	0	100	6.6	15.1	16.4
DGCR	RH	738	0	100	8.0	-17.7	19.4
DGZO	RH	33	0	100	9.2	18.8	20.9
FNAT	RH	76	0	100	5.9	24.4	25.1
HOMF	RH	49	0	100	10.4	-18.4	21.2
NBTM	RH	20	0	100	15.0	-37.6	40.5
OUEV	RH	67	0	100	26.3	-17.9	31.8
OUEX	RH	33	0	100	13.9	-47.9	49.9
TESTFR1	RH	21	0	100	9.7	-67.1	67.8
VAAZ	RH	34	0	100	5.1	-48.2	48.5
4XFB	RH	25	0	100	12.1	16.6	20.5

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
A8CK2	SST	20	0	25	0.9	-3.2	3.3
A8DZ4	SST	30	0	60	2.5	3.2	4.1
C6IZ7	SST	30	0	103	0.9	3.2	3.4
C6QE3	SST	51	6	84	1.6	4.1	4.4
C6RJ6	SST	35	0	100	0.7	-3.4	3.5
DEFZ	SST	27	0	33	2.3	-3.3	4.0
DGRF	SST	26	0	81	2.3	4.6	5.1
ELSM9	SST	31	3	100	1.1	-7.1	7.2
FNFD	SST	108	0	100	1.5	3.6	3.9
KHRC	SST	35	0	100	0.8	-5.4	5.4
KS049	SST	233	2	103	2.6	-4.2	4.9
SWLC	SST	28	0	100	1.6	-5.7	5.9
S6IW	SST	64	0	100	1.1	-4.8	4.9
UCUF	SST	38	0	68	3.4	5.4	6.4
UFJC	SST	40	38	100	2.6	-3.9	4.6
VRBH5	SST	33	0	79	1.5	-4.6	4.8
VVKV	SST	31	0	103	0.9	3.2	3.4
V2AC6	SST	34	3	100	2.0	3.1	3.7
V2EX	SST	22	14	32	1.5	-3.2	3.5
WAAH	SST	65	0	100	1.2	3.0	3.3
WCOB	SST	20	5	35	1.8	3.2	3.7
WCZ5528	SST	49	2	100	2.0	-4.1	4.6
WMLH	SST	39	0	26	1.1	3.4	3.6
WSRH	SST	36	0	100	1.2	-3.8	3.9
WZJD	SST	38	3	100	0.8	-3.9	4.0
ZCDH9	SST	28	4	71	2.4	-4.4	5.0
ZMFR	SST	131	77	100	0.4	-8.9	8.9
3FMG8	SST	20	0	70	4.7	-3.6	5.9
4XIS	SST	26	0	100	2.0	-4.4	4.9
41008	SST	723	0	65	0.8	-3.5	3.6
41035	SST	826	0	100	0.9	-6.5	6.6
42007	SST	733	0	94	0.9	-4.3	4.4
42035	SST	733	0	71	1.3	-3.6	3.9
44150	SST	501	0	62	1.1	-3.3	3.5
61298	SST	539	100	100			
61299	SST	552	100	100			
61301	SST	530	100	100			
61302	SST	497	100	100			
61303	SST	527	100	100			
61304	SST	506	100	100			
61305	SST	433	100	100			
61306	SST	450	100	100			

61307	SST	465	100	100
61308	SST	432	100	100
61309	SST	420	100	100
61310	SST	588	100	100
61311	SST	547	100	100
61312	SST	510	100	100
61313	SST	499	100	100
61314	SST	565	100	100

Figure 1. SHIP/SYNOP mean daily count. DECEMBER 2005
All hours
Global average number of observations in 24 hours = 21165



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4		4				0		4	4		3					4	4		38	24	6	1	5	1	9	4	4	8	6	7	5	4			
11	15	16	27	4	8	16	4	12	4	0	2	11	6	2	24	33	25	160	135	83	86	55	43	51	16	27	15	12	23	35	18	10	12	22	10
13	15	36	19	38	51	41	24	22	0	8	17	22	4	4	4	17	529	991	1111	331	156	123	109	118	144	143	75	110	95	91	57	33	27	18	9
5	5	6	7	11	83	34	22	50	143	116	78	42	49	16	19	26	465	1249	1202	438	142	136	58	93	98	94	64	96	155	181	132	79	14	7	5
4	5	6	7	13	28	76	34	58	107	58	18	15	19	24	42	40	340	217	184	134	223	132	127	79	89	16	84	175	239	270	132	37	7	5	4
7	9	23	14	10	6	20	63	47	70	41	13	13	11	5	7	84	8	28	9	22	88	56	90	72	100	100	99	225	231	87	20	12	12	7	7
1	1	5	2	3	2	2	16	65	83	48	94	12	3	4	24	79	70	41	29	16	62	49	23	9	101	21	66	167	44	148	10	11	2	6	2
0	0	2	2	1	1	0	0	1	13	42	14	27	5	5	10	11	53	37	20	6	47	10	6	3	53	42	62	85	61	70	10	6	14	8	8
2	1	2	1	2	0	0	1	2	10	34	32	24	71	56	1	4	3	4	16	5	61	7	6	1	8	3	1	68	85	46	28	26	8	5	9
20	3	1	8	1	1	1	1		0	27	62	43	93	39	1	1	3	3	8	25	37	42	21	9	2	1	3	4	3	20	47	73	8	20	18
7	1	4	4	4	1	1	3		0	18	56	128	83	4	4	1	1	2	24	93	53	17	24	1	0	0	0	1	30	7	35	77	74	24	4
2	0	1	1	0	0	0	0		0	26	85	77	1	0	0	1	2	2	27	61	2	0	1	0	2		0	0	32	17	74	208	88	5	12
0	0	0				0				18	24	1	0				4	1	0		4	0	6	0	5			0				74	0	2	4
										14	11	28	3	3	0	0	0	1										0		0	0	2	3	1	0
											12	30	4			0	4	4			6	0	0	2	3	0	4	0	3	0		4			0
											1			4	5	0	10	11	5									4						4	0
																		4				0													

TABLE 2

MONITORING OF MARINE SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - DRIFTING BUOYS
MONITORING CENTRE: EXETER
MONTH: Dec 05

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for drifting buoys.

Standard of comparison :Background field from UKMO global model.

Position :Average latitude and longitude for period.

Observation times : All hours

Elements monitored :Mean sea level pressure (hPa).
:Wind speed (m s^{-1}).
:Wind direction (degrees).
:Sea surface temperature (degrees).

Parameters monitored

:NOBS	:Number of observations received excluding duplicates.
:PGE	:Percentage of observations with gross errors.
:%REJ	: Percentage of observations flagged excluding those with gross errors
:SD	:SD of difference of observations from background values excluding those with gross errors.
:BIAS	:Mean difference of observations from background values excluding those with gross errors. **N.B. a positive bias indicates the wind observation is veered to the background.**
:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors.

GROSS ERROR LIMIT

:15 hPa	(pressure)
:25 m s^{-1}	(vector wind)
:10 degrees	(sea surface temperature)

SELECTION CRITERIA :

NOBS	$\geq$ 20 , and one or more of the following:	
1.|bias|	$\geq$ 4 hPa	(pressure),
	$\geq$ 5 m s^{-1}	(wind speed),
	$\geq$ 30 degrees	(direction).
	$\geq$ 3 degrees	(sea surface temperature).
2.SD	$\geq$ 6 hPa	(pressure),
	$\geq$ 80 degrees	(direction).
	$\geq$ 5 degrees	(sea surface temperature).
3.PGE	$\geq$ 25.	

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
21903	43.3	158.3	P	94	0	68	3.7	5.7	6.8
21905	42.3	159.6	P	40	45	82	3.2	7.5	8.2
21918	32.0	175.0	P	655	3	100	4.1	5.6	6.9
21929	32.3	-175.1	P	66	61	91	4.8	-7.9	9.2
21945	44.3	150.3	P	567	1	66	3.2	4.2	5.3
21947	35.6	152.7	P	273	16	100	6.8	2.5	7.2
21951	29.4	148.8	P	408	0	46	2.8	4.5	5.3
21952	37.8	155.1	P	245	18	73	6.8	-4.8	8.3
21968	32.1	150.8	P	429	0	42	2.6	4.4	5.1
23948	-4.7	65.1	P	536	0	100	3.7	7.1	8.0
25574	86.4	42.1	P	26	19	100	5.1	4.1	6.5
33953	-50.8	-55.4	P	315	26	30	2.2	0.4	2.2
41528	27.7	-74.4	P	317	89	97	5.8	-5.7	8.2
41532	15.1	-45.3	P	162	28	37	0.5	1.1	1.2
41927	28.9	-77.1	P	464	3	74	4.4	4.3	6.2
41931	39.5	-47.9	P	173	7	74	4.8	5.7	7.4
62908	47.2	-90.9	P	45	0	91	3.3	-8.1	8.7

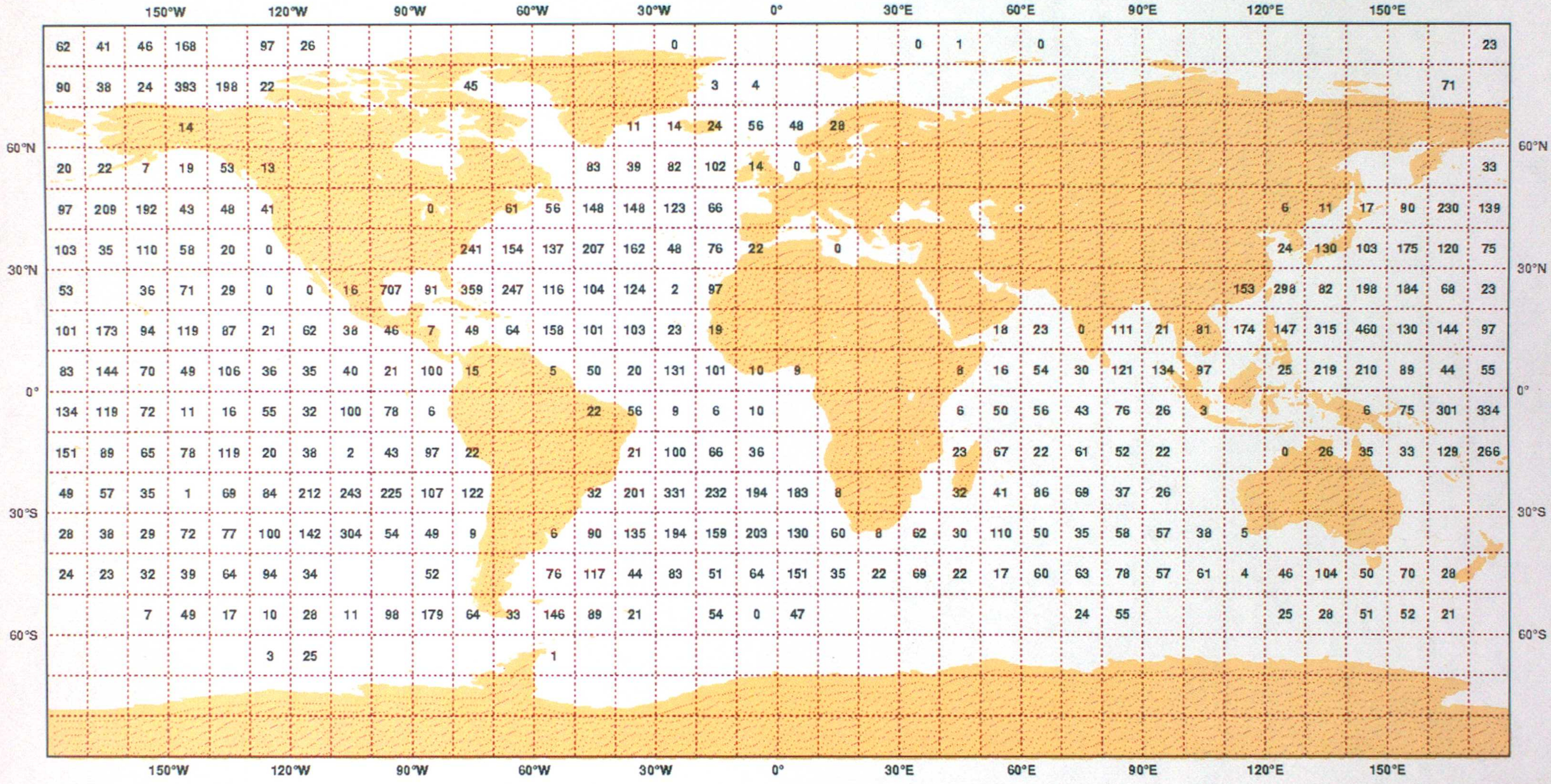
IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
21576	20.3	119.3	SPEED	112	39	100	1.9	21.9	22.0
41670	24.7	-94.5	SPEED	135	1	100	3.0	9.8	10.3
41919	22.9	-94.7	SPEED	81	0	100	3.8	15.9	16.4
41937	26.6	-94.7	SPEED	53	13	100	7.0	13.5	15.2
41942	24.9	-94.8	SPEED	233	6	100	6.3	10.8	12.5
41943	26.5	-95.9	SPEED	39	15	100	7.5	11.2	13.5
41945	22.1	-94.3	SPEED	121	14	100	6.3	8.9	10.9
46643	48.1	-162.2	SPEED	195	0	100	3.0	6.2	6.9

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
15502	-16.4	-16.1	SST	552	0	100	0.2	-3.4	3.4
15504	-14.6	-19.4	SST	582	0	100	0.1	-3.5	3.5
15510	-13.1	-26.6	SST	574	0	100	0.1	-3.9	3.9
15649	-20.5	-22.8	SST	668	0	100	0.2	-3.8	3.8
22534	20.2	115.1	SST	604	0	99	0.3	-3.3	3.3
22535	22.3	120.9	SST	44	16	80	3.2	-5.7	6.5
22536	19.9	119.2	SST	70	100	100			
22538	19.6	119.3	SST	349	14	100	3.4	-3.5	4.9
22592	19.6	110.9	SST	175	0	67	3.2	-3.6	4.8
22630	37.7	131.2	SST	142	100	100			
32538	-11.1	-161.7	SST	671	0	100	0.3	-4.3	4.4
32620	-8.7	-175.9	SST	686	0	100	0.2	-4.3	4.3
32803	2.9	-123.2	SST	511	0	100	0.8	-4.5	4.5
32805	2.5	-95.6	SST	486	0	100	0.5	-3.6	3.7
32815	-9.2	-102.4	SST	506	0	100	0.1	-3.3	3.3
32816	-8.4	-96.4	SST	435	0	100	0.1	-3.5	3.5
32819	-0.2	-113.3	SST	440	0	93	0.9	-3.7	3.8
32821	-9.7	-102.7	SST	474	0	100	0.2	-3.2	3.2
32823	3.5	-80.1	SST	534	0	100	0.2	-4.2	4.2
32827	-5.1	-97.1	SST	442	0	100	0.2	-3.5	3.5
32829	-4.1	-101.9	SST	465	0	100	0.2	-3.6	3.6
33632	-51.3	-75.1	SST	107	86	100	1.5	7.8	7.9
33953	-50.9	-55.4	SST	474	0	49	3.6	-3.5	5.0
33954	-49.4	-54.6	SST	472	0	49	3.6	-4.6	5.9
33957	-51.4	-41.3	SST	454	46	46	0.5	-1.1	1.2
41552	-4.9	-37.1	SST	111	0	77	0.9	3.0	3.1
41912	31.3	-71.5	SST	807	0	100	0.4	-3.4	3.4
41969	26.3	-75.3	SST	705	0	100	0.3	-3.7	3.7
43578	17.8	-104.5	SST	668	0	100	0.4	-4.6	4.6
44636	44.1	-59.7	SST	319	0	57	2.8	-3.1	4.2
44902	39.9	-67.6	SST	137	0	88	1.8	-4.6	4.9

46972	28.3	129.6	SST	273	1	100	0.4	3.5	3.5
51743	-6.8	166.0	SST	705	0	100	0.4	-4.2	4.3
51747	13.3	-133.2	SST	689	0	100	0.2	-3.9	3.9
51748	-12.3	179.2	SST	721	0	100	0.3	-4.3	4.4
51751	12.4	-131.8	SST	654	0	100	0.1	-3.7	3.7
51752	-10.1	-170.5	SST	665	0	100	0.3	-4.4	4.5
51959	-8.8	160.7	SST	56	0	100	1.1	-3.1	3.3
53521	5.5	140.6	SST	624	0	99	0.3	-4.3	4.3
53522	6.0	142.2	SST	632	0	100	0.2	-4.4	4.4
53566	5.6	138.0	SST	687	0	100	0.4	-4.2	4.2
53567	5.7	139.3	SST	555	0	99	0.4	-4.2	4.3
53568	5.6	140.2	SST	569	0	99	0.3	-4.3	4.3
53578	5.5	142.3	SST	611	0	100	0.3	-4.4	4.4
53580	4.6	143.4	SST	626	0	100	0.2	-4.5	4.5
53582	5.9	140.6	SST	694	0	100	0.3	-4.2	4.3
53591	5.7	142.2	SST	687	0	100	0.3	-4.3	4.3
53592	4.3	141.6	SST	662	0	100	0.3	-4.4	4.4
53593	5.6	141.4	SST	684	0	100	0.2	-4.3	4.3
53594	4.2	141.8	SST	703	0	100	0.3	-4.4	4.4
53595	5.5	143.6	SST	658	0	100	0.2	-4.3	4.3
53596	5.5	139.2	SST	637	0	100	0.3	-4.2	4.2
53599	4.1	142.2	SST	645	0	100	0.2	-4.4	4.4
53600	5.4	144.0	SST	631	0	100	0.2	-4.4	4.4
53601	3.6	140.2	SST	633	0	100	0.3	-4.3	4.3
53602	7.1	129.1	SST	558	0	100	0.3	-4.2	4.2
53603	4.0	126.6	SST	54	0	100	0.7	-5.2	5.2
53604	4.1	141.6	SST	681	0	100	0.3	-4.5	4.5
53605	7.3	129.7	SST	669	0	100	0.2	-4.1	4.1
53606	4.1	141.1	SST	540	0	100	0.3	-4.4	4.4

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
53607	6.7	136.8	SST	572	0	100	0.3	-4.4	4.4
53608	1.4	133.9	SST	103	0	88	2.8	-4.4	5.3
53609	6.7	136.8	SST	584	0	100	0.2	-4.4	4.4
53901	3.9	126.7	SST	24	0	100	2.0	-6.3	6.6
53902	5.7	141.9	SST	640	0	100	0.3	-4.3	4.3
53903	20.5	123.7	SST	583	0	100	0.3	-3.9	3.9
53904	20.6	123.4	SST	377	0	100	0.2	-3.7	3.8
55916	-54.2	171.0	SST	182	77	77	0.2	0.0	0.2
61815	35.5	15.8	SST	150	100	100			
61816	36.8	11.9	SST	173	100	100			
61817	35.6	15.2	SST	148	100	100			
61818	35.8	12.7	SST	162	100	100			
61819	36.2	15.7	SST	199	100	100			
61820	35.8	15.7	SST	141	100	100			

Figure 2. DRIFTER mean daily count. DECEMBER 2005
All hours
Global average number of observations in 24 hours = 25195



62	41	46	168		97	26									0						0	1		0											23
90	38	24	393	198	22					45						3	4																	71	
			14											11	14	24	56	48	28																
20	22	7	19	53	13								83	39	82	102	14	0																	33
97	209	192	43	48	41				0		61	56	148	148	123	66														6	11	17	90	230	139
103	35	110	58	20	0					241	154	137	207	162	48	76	22		0											24	130	103	175	120	75
53		36	71	29	0	0	16	707	91	359	247	116	104	124	2	97													153	298	82	198	184	68	23
101	173	94	119	87	21	62	38	46	7	49	64	158	101	103	23	19							18	23	0	111	21	81	174	147	315	460	130	144	97
83	144	70	49	106	36	35	40	21	100	15		5	50	20	131	101	10	9				8	16	54	30	121	134	97		25	219	210	89	44	55
134	119	72	11	16	55	32	100	78	6				22	56	9	6	10					6	50	56	43	76	26	3				6	75	301	334
151	89	65	78	119	20	38	2	43	97	22				21	100	66	36					23	67	22	61	52	22			0	26	35	33	129	266
49	57	35	1	69	84	212	243	225	107	122			32	201	331	232	194	183	8			32	41	86	69	37	26								
28	38	29	72	77	100	142	304	54	49	9		6	90	135	194	159	203	130	60	8	62	30	110	50	35	58	57	38	5						
24	23	32	39	64	94	34			52			76	117	44	83	51	64	151	35	22	69	22	17	60	63	78	57	61	4	46	104	50	70	28	
		7	49	17	10	28	11	98	179	64	33	146	89	21		54	0	47							24	55				25	28	51	52	21	
					3	25						1																							

TABLE 3

MONITORING OF LAND SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - SYNOPS & AUTOSYNOPS
MONITORING CENTRE: EXETER
MONTH: Dec 05

Monitoring procedures		
Period		:One calendar month.
Data monitored		:Reports from each unique identifier for synops & autosynops.
Standard of comparison		:Background field from UKMO global model.
Observation times		:00, 06, 12, 18 UTC
Elements monitored		:Surface pressure (hPa).
Parameters monitored	:HT(m)	:Station height (in metres) as given in WMO No. 9 Vol A
	:RP	:Pressure reporting practice M=mean sea level pressure (hPa) reported. S=Station level pressure reported. 8=Geopotential height (m) of 850 hPa surface reported. 7=Geopotential height (m) of 700 hPa surface reported.
	:NOBS	:Number of observations received excluding duplicates.
	:NGE	:Number of observations with gross errors.
	:PGE	:Percentage of observations with gross errors.
	:%REJ	:Percentage of observations flagged excluding those with gross errors.
	:SD	:SD of difference of observations from background values excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors.
GROSS ERROR LIMIT	:15 hPa	(pressure)
SELECTION CRITERIA	:NOBS	≥ 20 ,and one or more of the following:
	1.|bias|	≥ 4 hPa
	2. SD	≥ 6 hPa
	3.PGE	≥ 25.

N.B. For stn ht ≥ 500m, mslp is that calculated from station level pressure where available.
For stn ht < 500m, mslp is that as reported by the station where available.

SUSPECT SYNOPS (PRESSURE) BY WMO REGION DEC 200

WMO REGION 1:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
60320	35.9N	5.4W	2	MS	53	0	0	0	0.7	-9.5	9.5
60423	36.3N	8.0E	680	S8	91	91	100	0			
62056	32.8N	21.9E	625	S8	74	0	0	0	0.8	-5.2	5.3
63160	10.4N	45.0E	9	M	23	0	0	0	0.4	-4.3	4.3
63330	13.5N	39.5E	2070	MS	55	54	98	100	0.0	9.6	9.6
63333	11.1N	39.7E	1903	MS	57	0	0	60	1.0	4.5	4.6
63334	10.3N	37.7E	2515	MS	55	1	2	96	1.7	8.6	8.8
63450	9.0N	38.8E	2354	MS	82	0	0	0	0.7	4.7	4.8
63671	1.8N	40.1E	244	M	122	0	0	0	1.3	-5.4	5.6
63801	4.9S	29.6E	882	S8	59	0	0	2	1.9	8.2	8.4
63881	8.0S	31.6E	1923	S	50	6	12	0	1.1	12.9	12.9
66285	11.8S	19.9E	1357	8	21	19	90	5	0.1	14.8	14.8
67295	19.1S	33.5E	731	S8	42	22	52	95	3.9	12.6	13.2
68014	19.6S	18.1E	1411	S8	78	0	0	0	0.7	-7.3	7.3
68030	18.5S	25.6E	1071	S8	78	3	4	0	4.2	10.1	10.9
68038	20.5S	26.0E	903	8	66	0	0	0	0.9	4.0	4.1
68102	19.9S	16.4E	1343	S8	114	0	0	0	0.7	5.8	5.8
68300	26.6S	15.1E	16	S	114	7	6	0	1.1	-13.0	13.0
68312	26.5S	18.1E	1067	S8	77	0	0	0	0.7	4.1	4.2
68325	25.4S	25.4E	1275	8	54	0	0	0	0.9	4.0	4.1
68396	26.5S	31.3E	641	S8	59	0	0	3	1.6	5.2	5.4
68575	30.0S	30.0E	1175	S8	124	124	100	0			

WMO REGION 2:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
24329	66.3N	114.3E	236	MS	111	1	1	20	2.3	4.6	5.1
25248	67.3N	168.0E	353	MS	84	1	1	45	2.1	8.6	8.9
30554	54.5N	113.6E	995	MS	124	1	1	1	0.9	11.9	11.9
31123	57.8N	130.9E	255	MS	122	2	2	42	2.1	4.7	5.1
31534	50.4N	131.0E	230	MS	122	1	1	0	2.1	-4.3	4.8
35416	49.1N	54.7E	128	S	123	0	0	0	0.5	4.2	4.2
36058	51.4N	86.0E	420	MS	123	0	0	38	2.2	4.5	5.0
36982	41.9N	78.2E	3635	S7	95	1	1	1	0.8	5.2	5.3
38846	38.4N	70.0E	1437	S8	80	4	5	4	3.7	-5.4	6.5
40435	27.0N	44.1E	991	MS	62	0	0	0	1.2	6.8	6.9
40700	39.6N	47.9E	45	MS	116	1	1	1	1.0	-5.3	5.4
40713	37.4N	46.3E	1475	MS	117	0	0	0	0.7	13.2	13.2
40741	36.5N	61.2E	235	MS	116	0	0	1	1.5	-5.3	5.5
40743	36.2N	57.7E	978	MS	119	0	0	0	0.7	5.7	5.7
40757	35.6N	53.4E	1171	MS	118	0	0	1	1.1	5.1	5.2
40780	33.6N	46.4E	1362	MS	120	1	1	0	0.5	4.7	4.7
40854	29.1N	58.4E	1067	MS	120	0	0	1	1.9	10.8	11.0
41252	23.4N	56.5E	244	MS	104	0	0	0	0.6	-9.3	9.3
41254	23.1N	57.6E	1755	S8	122	122	100	0			
41396	16.0N	48.9E	700	MS	63	0	0	0	0.9	6.5	6.6
41466	13.7N	44.1E	1402	S8	89	1	1	1	0.6	-8.4	8.4
44416	28.6N	81.6E	720	MS	87	1	1	1	1.9	4.0	4.4
47022	40.8N	128.2E	1224	S	56	0	0	0	0.9	5.9	6.0
47155	35.2N	128.6E	5	MS	123	0	0	0	0.8	-4.4	4.5
47678	33.1N	139.8E	79	MS	124	0	0	0	0.6	-9.2	9.2
48921	21.6N	101.9E	923	S	32	32	100	0			
48924	21.1N	101.5E	644	S	57	0	0	2	1.4	11.2	11.3
48925	20.7N	102.0E	550	S	51	2	4	2	0.9	-10.3	10.3
48938	19.2N	101.7E	326	MS	57	45	79	0	0.4	14.5	14.5
50727	47.2N	119.9E	1028	MS	124	0	0	0	0.7	4.4	4.5
50978	45.3N	130.9E	234	MS	124	0	0	0	0.6	-6.8	6.8

51243	45.6N	84.9E	428	MS	123	0	0	38	2.7	-4.6	5.3
51288	45.4N	90.5E	1651	S	122	0	0	24	1.2	-4.3	4.5
51334	44.6N	82.9E	321	M	123	0	0	45	3.1	4.3	5.3
51379	44.0N	89.6E	794	M	123	0	0	72	2.9	6.6	7.2
51818	37.6N	78.3E	1376	M	123	0	0	63	2.3	5.4	5.9
52378	41.4N	102.4E	960	M	123	0	0	41	2.5	4.6	5.2
52866	36.6N	101.8E	2262	S	123	0	0	0	1.2	-4.2	4.4
53083	44.6N	114.2E	1183	M	123	0	0	61	2.7	6.2	6.8
53352	41.7N	110.4E	1377	M	122	0	0	73	2.9	5.9	6.6
53480	41.0N	113.1E	1416	M	124	0	0	44	2.4	4.4	5.0
53502	39.8N	105.8E	1143	M	123	0	0	60	2.4	4.6	5.2
53646	38.3N	109.8E	1058	MS	123	1	1	0	0.6	-13.5	13.5
53705	37.5N	105.7E	1185	M	122	0	0	48	2.8	4.4	5.2
53764	37.5N	111.1E	951	M	123	0	0	8	2.4	4.0	4.7
54386	41.4N	128.2E	1018	M	123	0	0	66	2.5	5.6	6.1
56193	32.4N	104.5E	877	M	124	0	0	10	2.5	5.7	6.2
56385	29.5N	103.3E	3049	S	124	0	0	19	2.5	-4.8	5.4
56462	29.0N	101.5E	2994	S	124	0	0	0	1.7	9.2	9.4
56768	25.0N	101.5E	1773	S	124	0	0	0	0.7	-5.4	5.4
57014	34.6N	105.9E	1086	M	124	0	0	0	2.5	5.2	5.8
57816	26.6N	106.7E	1074	MS	122	120	98	0	0.1	-14.8	14.8
59007	24.1N	105.1E	1251	M	124	0	0	26	1.6	4.0	4.3
59663	21.8N	112.0E	22	MS	124	0	0	0	0.8	-8.7	8.7

WMO REGION 3:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
80099	7.1N	70.7W	122	MS	31	0	0	0	1.2	-6.5	6.6
80426	9.4N	70.6W	582	MS	22	0	0	0	0.7	4.9	4.9
82181	2.0S	54.1W	146	MS	84	0	0	0	1.3	5.3	5.5
82704	7.6S	72.7W	170	MS	89	0	0	0	1.4	-4.5	4.7
83235	12.4S	46.4W	604	MS	87	0	0	0	1.4	5.8	6.0
83332	14.1S	46.4W	826	MS	88	11	13	0	1.0	13.5	13.5
83470	17.9S	50.9W	727	MS	85	0	0	0	1.0	-5.7	5.8
83531	18.6S	46.5W	940	MS	87	0	0	0	1.0	-6.3	6.4
83676	21.1S	49.0W	536	MS	88	0	0	1	1.4	-4.5	4.7
83836	25.5S	50.6W	837	MS	91	0	0	1	1.3	-4.4	4.6
83970	31.3S	50.9W	4	MS	66	0	0	0	3.0	-4.8	5.7
84425	5.9S	76.1W	179	MS	22	0	0	0	1.3	5.4	5.6
84452	6.8S	79.8W	29	MS	114	0	0	0	0.9	4.5	4.6
84455	6.5S	76.4W	281	MS	84	0	0	0	1.9	6.5	6.8
84472	7.1S	78.5W	2620	S	48	0	0	0	1.1	-5.9	6.0
84474	7.2S	76.7W	350	S	23	3	13	9	1.4	8.9	9.0
84686	13.6S	72.0W	3248	S	114	1	1	0	0.7	-4.1	4.2
84688	13.7S	73.4W	3444	S	43	1	2	0	0.6	-12.2	12.2
85140	14.3S	67.4W	140	MS	57	0	0	0	1.5	9.0	9.1
85264	18.5S	64.1W	1998	S	56	56	100	0			
85312	19.8S	63.9W	992	S	46	1	2	52	1.1	-12.7	12.7
85364	21.6S	64.7W	1854	S8	56	0	0	5	2.2	4.4	4.9
85406	18.5S	70.2W	55	M	122	0	0	0	1.4	4.1	4.3
85432	22.5S	68.9W	2320	S	84	0	0	0	0.6	4.5	4.5

WMO REGION 4:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
71060	52.5N	116.1W	230	MS	124	124	100	0			
71181	47.1N	55.3W	29	MS	123	0	0	0	0.8	-6.0	6.1
71506	67.0N	136.2W	720	MS	119	0	0	3	1.9	-4.0	4.4
71581	54.5N	128.6W	215	MS	123	78	63	0	6.5	-6.3	9.1
71979	53.8N	118.4W	1542	S	92	0	0	5	0.9	9.1	9.1
76055	31.0N	114.9W	440	MS	62	62	100	0			
76225	28.6N	106.1W	1435	MS	92	0	0	2	1.2	-4.0	4.2
76382	25.5N	103.5W	1124	MS	114	0	0	0	0.6	4.3	4.3

76543	22.0N	98.8W	104	MS	40	0	0	0	0.9	9.2	9.2
76658	19.2N	103.7W	494	MS	25	0	0	0	0.4	5.3	5.3
76762	17.5N	99.5W	1265	MS	100	0	0	0	0.6	5.3	5.3
76843	16.8N	93.1W	528	MS	112	0	0	0	1.0	-4.7	4.8
78482	18.2N	71.1W	3	M	38	0	0	5	2.0	4.3	4.7
78588	17.2N	87.5W	-288	M	123	123	100	0			

WMO REGION 5:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
91258	11.2N	169.9E	2	MS	40	0	0	65	1.6	5.8	6.0
92010	6.1S	145.4E	1587	M	23	0	0	0	0.9	9.8	9.8
94130	14.8S	131.9E	120	MS	124	0	0	0	1.0	5.6	5.7
96505	3.7N	115.7E	-9999	8	61	27	44	0	2.5	11.3	11.6
97284	8.6S	120.5E	1170	S8	82	0	0	0	0.8	4.8	4.9
97378	10.7S	123.1E	1	MS	24	22	92	0	3.8	-10.8	11.4

WMO REGION 6:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
01360	61.9N	7.9E	711	MS	123	0	0	0	1.5	7.2	7.4
04301	83.7N	33.4W	4	MS	52	23	44	0	1.7	0.5	1.8
04416	72.6N	38.4W	3202	S	110	1	1	1	0.6	4.2	4.2
06239	54.9N	44.7E	49	MS	371	196	53	0	7.9	3.8	8.8
06605	47.1N	7.1E	1599	S8	123	0	0	13	1.8	-5.6	5.9
08912	42.9N	0.8W	1434	MS	53	53	100	0			
10850	48.8N	10.7E	457	MS	371	0	0	0	0.4	-5.9	5.9
11116	47.5N	10.8E	870	MS	62	2	3	0	0.6	4.8	4.8
13269	44.3N	19.9E	176	MS	122	0	0	2	0.9	8.0	8.1
14554	44.9N	18.4E	136	S	62	6	10	0	0.7	-13.9	13.9
16344	39.3N	16.4E	1710	S8	265	0	0	1	1.3	4.3	4.5
17203	38.9N	40.5E	1177	S8	122	0	0	0	1.1	4.2	4.3
17210	37.9N	41.9E	890	MS	119	0	0	56	0.8	-4.4	4.5
17521	35.2N	33.5E	285	MS	101	101	100	0			

ANTARCTIC:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
89004	71.7S	2.8W	815	MS	103	0	0	0	0.9	-6.5	6.6
89257	75.4S	59.9W	40	S	774	0	0	0	1.9	-4.7	5.1
89266	72.2S	60.2W	91	S	334	334	100	0			
89272	74.8S	70.5W	1395	S	247	247	100	0			
89327	73.2S	127.1W	230	S	322	80	25	0	3.6	0.7	3.7
89512	70.8S	11.8E	140	MS	124	0	0	0	0.7	-4.0	4.1
89610	65.9S	113.1E	90	S	344	0	0	0	0.9	-9.3	9.3
89614	66.7S	111.5E	500	M	336	336	100	0			
89769	78.5S	168.4E	50	S	791	0	0	0	1.9	-4.1	4.5
89811	66.7S	112.8E	1366	S	340	0	0	0	1.0	-5.0	5.1
89868	79.9S	170.0E	60	S	334	0	0	0	1.2	-4.8	4.9

TABLE 4A

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Dec 05

Monitoring procedures

Period :One calendar month.

Data monitored :Statistics for each airline carrier.

Area monitored :90°N - 90°S, 180°W - 180°E.

Standard of comparison :Background field from UKMO global model.

Observation times :All hours combined.

Level(s) monitored :300.0 - 150.0 hPa

Elements monitored :TEMP in °C ; WIND in m s^{-1}

Parameters monitored

:N REP. :Number of observations received excluding duplicates.

:PG :Percentage of observations with gross errors.

:PR :Percentage of observations rejected by quality control including rejections from the duplicate check.

:PC :Percentage of observations with calm winds.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.

:BIAS :Mean difference of observations from background values excluding those with gross errors in Temperature & Wind Speed.

GROSS ERROR LIMITS :10.0 °C ; 60 m s^{-1} Vector Wind

SELECTION CRITERIA :N REP ≥ 20

NB: All American ACARS data are grouped together and statistics are shown at the bottom of the table as "US ACARS".

		TEMPERATURE						WIND			
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AAH	2572	0	46	1.5	0.3	2540	0	46	0	6.9	1.0
AAL	8931	0	23	1.4	0.1	8437	0	24	0	6.9	0.7
AAR	691	0	7	1.8	-0.6	671	1	8	0	8.8	-0.1
ACA	3833	0	11	1.5	-0.1	3353	0	10	0	6.6	0.3
ACF	51	12	49	3.3	-0.3	36	0	47	0	19.6	0.5
ACI	168	0	21	0.9	0.3	160	0	19	0	5.8	-0.6
AEA	1375	0	3	1.7	0.5	1157	0	4	0	7.7	-0.2
AFL	298	1	5	1.8	0.2	96	2	15	0	12.8	0.3
AFR	4997	0	4	1.3	0.2	4891	0	4	0	6.4	0.4
AFZ	34171	0	11	1.6	1.2	34171	0	15	0	5.7	0.9
AJM	268	1	9	1.5	-0.3	232	0	100	0	9.6	0.9
AJX	404	0	6	1.3	0.4	403	1	10	0	8.6	0.1
AMT	1937	0	44	1.5	0.3	1904	0	45	0	8.7	0.3
AMX	506	1	5	1.7	0.3	450	0	5	0	9.0	0.2
ANA	26	0	12	2.1	-0.3	25	0	16	0	8.7	-0.4
ANZ	7659	0	31	1.3	0.3	7616	0	32	0	7.3	-0.2
ARG	20	0	45	3.6	1.7	20	0	30	0	7.1	-0.2
ATN	58	3	100	3.7	-1.7	44	0	23	0	12.6	5.3
AUA	448	0	2	1.4	0.5	437	0	1	0	5.0	0.9
AVA	472	0	2	1.3	0.1	477	0	3	0	7.5	0.5
AVN	167	0	48	0.9	-0.2	166	0	49	0	8.9	-0.1
AWE	206	2	29	1.7	-0.2	208	0	30	0	10.1	0.4
AXF	73	0	40	1.6	0.2	73	0	38	0	8.6	-1.8
AZA	499	2	48	2.8	1.4	408	0	6	0	8.9	-0.2
BAL	460	0	6	1.4	0.0	443	0	8	0	7.0	0.3
BAW	693	1	14	1.6	-0.3	454	0	12	0	7.8	0.6
BBR	232	1	1	1.5	0.0	219	0	2	0	6.4	0.6
BHP	79	0	10	1.7	0.2	72	0	7	0	9.2	0.3
BMA	353	0	2	1.3	-0.3	345	0	2	0	4.6	0.8
BPA	452	1	100	2.9	1.4	435	1	14	0	11.8	0.1
BWA	432	1	3	1.5	-0.3	356	0	2	0	6.5	0.1
CAL	39	0	5	1.9	-0.5	39	3	8	0	5.7	0.9
CCA	433	2	24	2.8	-0.2	399	2	100	0	13.5	-1.6
CES	284	2	11	2.0	-0.4	283	0	9	0	9.8	0.8
CFC	42	0	2	1.9	0.7	39	0	3	0	7.1	-0.3
CFG	1222	0	7	1.4	0.2	1054	1	9	0	10.1	0.0
CFY	88	0	3	1.3	-0.5	87	0	3	0	4.1	1.0
CGD	31	0	3	1.5	-0.7	30	0	3	0	3.4	0.2
CGF	273	0	2	1.3	-0.4	263	0	1	0	4.2	0.6
CGH	259	0	2	1.3	-0.2	255	0	2	0	4.4	1.0
CKK	175	2	9	2.0	0.4	176	1	9	0	9.0	-0.2
CKS	652	0	38	1.8	0.1	572	0	44	0	10.7	0.4
CLX	262	1	11	1.8	-0.1	107	0	17	0	14.0	-0.9
CNJ	34057	0	71	1.2	0.6	34057	0	71	0	4.8	0.6
COA	4888	0	6	1.3	0.1	4770	0	5	0	4.9	0.8
CRL	230	1	10	1.9	0.7	215	0	8	0	10.0	0.5
CSA	33	0	6	2.0	-0.2	29	0	7	0	10.4	-0.5
CSD	71	3	11	2.7	1.3	42	0	0	0	6.1	0.7
CSN	109	3	10	1.8	0.0	110	2	9	0	7.2	1.4
CUB	361	1	7	1.9	-0.1	282	0	40	0	11.5	0.3
DAB	803	0	4	1.3	0.0	778	0	4	0	4.4	0.7
DAI	689	0	5	1.1	0.2	667	0	5	0	4.3	0.9
DAL	3810	0	30	1.6	0.5	3692	0	32	0	7.9	0.1
DLH	3649	0	7	1.3	0.1	3577	0	6	0	4.9	0.6
DRD	461	1	4	1.7	-0.2	457	0	3	0	6.6	0.5
EDW	62	0	2	1.4	0.0	56	0	4	0	6.7	0.3
EEZ	113	0	8	1.9	-0.2	109	1	7	0	8.9	0.8
EIA	228	0	43	2.3	0.1	225	0	100	0	13.6	1.2
ELY	359	1	4	1.4	0.3	313	0	4	0	6.4	0.8

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
ESS	128	2	43	3.2	1.7	35	0	3	0	6.8	1.7
EVA	292	1	5	1.4	0.1	291	1	5	0	6.5	0.4
FCA	216	0	100	3.0	1.7	175	1	5	0	8.6	0.6
FDX	1637	1	52	1.4	0.2	1457	0	53	0	7.0	0.3
FGE	20	0	5	0.7	0.0	20	0	5	0	3.7	0.6
FGI	147	0	3	1.1	0.0	146	0	3	0	4.7	1.0
FGL	145	0	1	1.2	0.3	140	0	1	0	4.5	1.0
FGN	43	0	2	0.9	0.1	42	0	2	0	4.2	-0.2
FGS	525	0	2	1.2	0.3	515	0	2	0	4.4	0.7
FGZ	55	0	2	1.3	-0.1	54	0	2	0	5.0	0.5
FIN	199	1	5	1.5	0.1	162	1	7	0	8.4	-0.1
FJI	858	3	38	2.2	0.8	839	0	31	0	7.2	0.3
FOM	850	0	29	1.4	-0.4	847	0	29	0	6.9	0.3
FWI	606	1	9	1.6	-0.4	586	0	7	0	7.5	0.8
GCO	109	1	6	1.5	0.1	85	0	100	0	11.6	1.1
GEC	432	0	21	1.6	0.2	410	0	21	0	7.6	0.5
GES	43	0	7	2.4	-0.6	35	0	3	0	8.4	0.0
GGS	20	0	5	0.8	0.3	20	0	5	0	4.0	0.2
GOJ	57	0	4	1.0	0.2	56	0	4	0	5.8	1.1
GTI	143	0	7	1.6	0.2	125	0	3	0	5.3	1.1
GVA	49	0	0	1.3	-0.3	48	0	0	0	4.1	-0.5
GVB	62	0	0	0.9	-0.2	59	0	0	0	4.6	0.4
GVF	31	0	0	1.2	-0.2	31	0	0	0	4.5	0.4
GVG	63	0	2	1.4	-0.7	62	0	2	0	5.1	0.6
GVH	56	0	7	1.2	-0.3	52	0	6	0	5.0	1.4
GVL	48	0	0	0.9	-0.1	46	0	0	0	4.8	1.0
GVR	199	0	3	1.1	-0.1	197	0	3	0	4.6	0.6
GVT	42	0	0	1.2	0.0	41	0	0	0	4.8	1.0
GVW	82	0	1	1.2	-0.2	79	0	1	0	4.4	0.9
GVX	45	0	2	1.2	-0.2	45	0	2	0	4.6	0.8
GWW	144	0	2	1.4	-0.5	140	0	2	0	4.6	1.0
HAL	4235	1	45	2.3	0.9	4199	0	41	0	8.8	0.4
HBI	156	0	4	1.3	-0.4	154	0	5	0	4.4	0.6
HBJ	126	0	2	1.3	-0.4	120	0	2	0	3.8	0.8
HMY	80	0	31	1.3	0.4	93	0	31	0	10.4	3.3
IBE	4107	1	5	1.5	0.1	4031	0	5	0	7.8	0.4
ICE	642	1	7	2.1	0.2	287	0	6	0	8.7	0.1
ISR	45	4	9	1.6	0.2	20	0	5	0	5.0	1.2
IWD	510	1	4	1.9	-0.4	505	0	4	0	7.6	0.2
JAL	1057	0	8	1.7	0.3	1053	0	8	0	8.0	0.6
JAZ	1652	0	5	1.2	0.4	1643	0	7	0	7.6	0.5
JBU	71	0	1	1.3	-0.2	79	0	0	0	4.2	0.8
JST	592	1	30	1.4	-0.1	588	0	29	0	6.4	0.4
KAC	108	0	0	1.5	0.8	106	0	0	0	4.5	-0.1
KAI	43	0	51	2.9	2.1	43	5	49	0	7.0	1.6
KAL	1294	1	12	1.8	-0.2	1283	1	11	0	7.7	-0.4
KLM	1477	0	10	1.6	0.0	1146	0	12	0	8.4	0.8
LAN	771	0	3	1.4	-0.2	770	0	3	0	4.8	0.7
LCO	25	0	4	1.6	-0.3	24	0	13	0	16.2	-0.6
LNE	223	1	5	1.5	-0.1	220	0	3	0	7.2	0.7
LNR	277	0	35	1.2	-0.1	265	0	36	0	4.0	0.7
LOB	61	0	18	1.3	-0.4	64	0	22	0	9.0	0.5
LOT	177	0	5	1.8	-0.7	55	0	7	0	11.8	-0.2
LTU	1018	1	6	1.7	-0.1	787	0	4	0	7.6	1.2
LVG	294	0	8	1.9	0.1	250	0	6	0	7.7	1.2
LXJ	21	0	48	1.6	0.1	21	0	48	0	7.7	1.9
MAS	278	1	13	2.5	1.0	269	1	10	0	9.5	-0.7
MMZ	31	0	0	1.3	0.4	31	0	0	0	6.6	1.4
MON	27	0	4	2.1	-0.4	22	0	0	0	6.2	1.6

		TEMPERATURE					WIND				
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
MPD	706	0	5	1.8	0.6	666	0	5	0	8.4	0.7
MPH	559	0	7	1.8	-0.9	443	0	8	0	11.2	0.2
MSR	127	0	0	1.3	0.5	126	0	0	0	5.1	1.1
MXA	38	11	34	3.5	-0.7	38	0	13	0	10.9	3.4
MXJ	205	1	12	1.4	0.1	115	0	9	0	8.0	1.1
MYT	208	0	9	1.9	-0.3	165	0	8	0	9.2	0.4
NAO	119	1	11	1.9	-0.3	105	0	13	0	10.2	0.3
NCA	902	0	5	1.7	0.1	661	0	7	0	8.3	0.4
NOS	115	1	5	1.5	0.6	85	0	6	0	7.4	0.2
NVR	45	0	4	1.7	-0.1	26	0	4	0	11.8	-1.2
NWA	9034	1	17	1.7	0.1	8887	0	18	0	8.2	0.3
NZL	6783	0	10	1.1	0.1	6783	0	10	0	5.4	0.4
OAE	526	0	25	1.4	-0.1	385	0	37	0	9.5	1.9
OOM	82	1	5	2.1	0.8	58	0	7	0	8.8	0.2
OYK	628	0	39	1.1	-0.3	606	0	38	0	4.1	0.9
PAC	375	1	11	2.3	0.0	325	1	10	0	9.6	0.2
PAL	1647	1	9	1.7	-0.4	1627	1	13	0	9.1	0.6
PBI	1380	0	47	1.5	-0.1	1371	0	47	0	8.0	0.5
PLM	231	1	2	1.6	0.7	206	0	3	0	8.0	-0.2
QFA	4130	0	54	1.4	0.5	4116	0	53	0	6.4	-0.2
RAM	354	0	6	1.8	0.4	264	1	9	0	9.8	1.1
RCH	357	1	100	3.3	-0.5	282	0	100	0	11.5	0.7
RYN	91	0	42	1.6	0.2	91	0	42	0	11.7	0.7
RZO	685	1	6	1.9	-0.3	654	0	5	0	8.3	0.8
SAA	143	3	10	1.6	-0.5	141	0	10	0	9.5	0.5
SAS	910	0	48	1.2	-0.1	902	0	48	0	4.2	0.6
SER	410	0	48	1.4	0.1	388	0	48	0	4.2	0.5
SEU	517	1	12	2.0	-0.1	466	0	11	0	8.9	0.7
SIA	835	0	3	1.3	0.4	832	0	3	0	5.1	0.4
SLM	169	0	1	1.2	0.2	168	0	3	0	6.8	0.3
SOO	48	0	6	2.2	0.7	48	0	4	0	5.6	2.1
SQC	371	0	0	1.2	0.0	370	0	0	0	5.0	-0.2
SVH	267	0	4	1.3	1.1	266	0	4	0	4.0	0.7
SWR	1495	0	3	1.4	-0.3	1469	0	3	0	5.0	0.8
TAG	77	0	31	2.5	-0.4	67	0	34	0	7.0	0.2
TAP	748	1	2	1.4	-0.2	686	0	3	0	7.7	0.5
TCV	108	5	53	3.7	3.1	107	0	14	0	11.2	1.1
TCX	258	0	5	1.4	0.0	248	0	5	0	6.3	1.1
TFL	183	1	10	1.6	0.1	149	3	11	0	11.9	-0.4
THA	232	0	13	1.4	0.5	231	0	12	0	4.7	1.1
THT	1766	0	29	1.0	0.3	1711	0	28	0	8.0	-3.7
TPA	32	0	6	0.9	0.1	28	0	7	0	7.6	-1.2
TSC	55	0	5	2.1	-0.5	38	0	5	0	9.2	-1.2
TSE	23	4	4	0.8	-0.1	23	0	9	0	9.0	1.5
TSO	33	30	39	2.4	0.0	30	0	17	0	12.4	-0.3
TUB	68	1	13	1.8	0.0	30	3	23	0	14.7	-1.6
UAE	1146	0	5	1.4	0.4	1135	0	5	0	5.1	0.5
UAL	13192	0	32	1.4	0.0	13439	0	32	0	7.0	0.9
UPS	1565	0	58	1.4	0.0	1207	0	59	0	6.1	0.8
USA	1764	0	2	1.2	0.1	1720	0	2	0	5.2	0.8
VIR	2666	0	3	1.2	-0.1	2555	0	3	0	5.1	0.6
VLE	25	4	8	2.7	-0.6	22	0	0	0	4.6	0.2
VRG	36	6	36	2.6	0.8	35	0	26	0	13.0	0.0
VVJ	74	0	24	1.3	-0.2	72	0	28	0	11.9	0.3
VVR	74	3	39	1.9	0.1	76	0	36	0	7.4	1.3
WOA	320	2	12	1.4	0.4	258	0	15	0	10.8	0.9
XLA	138	1	6	2.0	1.0	126	0	10	0	9.9	0.1
YSS	69	1	7	1.1	0.0	67	1	4	0	7.4	0.3
ZKN	56	0	0	1.1	-0.1	56	0	0	0	4.5	1.6

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
ZKS	107	0	3	1.2	-0.1	106	0	2	0	4.3	0.6
9VS	72	0	4	1.1	0.1	71	0	4	0	4.3	0.0

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AU	50219	0	17	1.3	0.6	50226	0	15	0	5.2	0.4
B-	17279	0	63	1.6	0.7	13753	1	68	0	6.0	0.0
EU	240108	0	29	1.2	0.3	240106	0	29	0	4.4	0.4
HK	6364	0	7	1.3	0.2	6364	0	7	0	5.2	0.7
HZ	22	0	0	0.9	0.1	22	0	0	0	5.1	0.6
JP	64012	0	65	1.6	0.8	64012	0	64	0	4.9	0.6
MK	3352	0	5	1.7	1.4	3351	0	5	0	6.9	1.6
SA	5576	0	7	1.1	0.6	5576	0	7	0	5.0	0.6
TN	87	1	32	2.3	0.4	83	0	33	0	7.1	2.1
UA	329335	0	99	1.2	-0.2	329046	0	99	0	5.1	0.6

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
N	7206	10	22	1.4	0.0	6308	0	14	0	5.4	0.7
S	50	0	0	0.9	-0.2	49	0	0	0	5.0	0.9
US AMDAR	1236458	0	68	1.3	0.3	1236451	0	68	0	5.3	0.6

TABLE 4B

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Dec 05

Monitoring procedures

Period :One calendar month.

Data monitored :Statistics for each airline carrier.

Area monitored :90°N - 90°S, 180°W - 180°E.

Standard of comparison :Background field from UKMO global model.

Observation times :All hours combined.

Level(s) monitored :1000.0 – 300.1 hPa

Elements monitored :TEMP in °C ; WIND in $m\ s^{-1}$

Parameters monitored

:N REP. :Number of observations received excluding duplicates.

:PG :Percentage of observations with gross errors.

:PR :Percentage of observations rejected by quality control including rejections from the duplicate check.

:PC :Percentage of observations with calm winds.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.

:BIAS :Mean difference of observations from background values excluding those with gross errors in Temperature & Wind Speed.

GROSS ERROR LIMITS :10.0 °C ; 60 $m\ s^{-1}$ Vector Wind

SELECTION CRITERIA :N REP $\geq$ 20

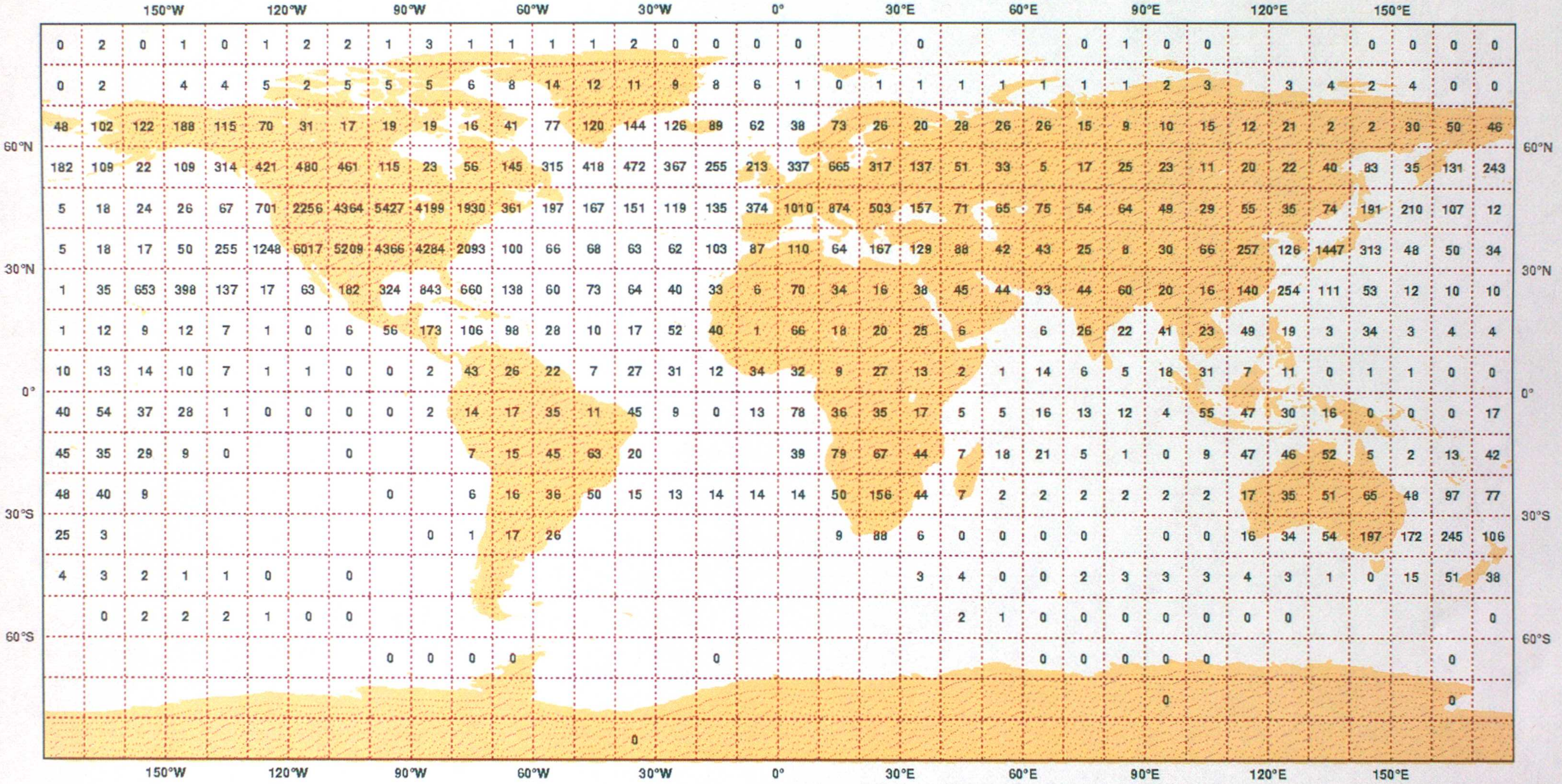
NB : All American ACARS data are grouped together and statistics are shown at the bottom of the table as "US ACARS".

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AAL	455	2	44	1.3	0.0	452	0	42	0	6.7	0.9
ACA	81	5	23	1.7	-0.2	79	0	22	0	8.5	0.3
ACI	28	0	36	0.9	0.4	27	0	33	0	4.5	0.5
AFR	81	1	17	1.6	0.2	78	1	19	0	12.1	-1.3
AFZ	41929	0	69	1.6	-0.4	41929	0	69	0	4.5	0.1
AMT	119	1	23	1.9	0.2	105	0	24	0	11.4	0.1
ANZ	313	1	15	1.2	0.1	317	0	15	0	4.6	0.2
AXF	33	0	64	1.1	0.4	33	0	64	0	6.2	-1.5
CFC	43	0	2	1.8	0.4	32	0	0	0	6.8	1.5
CKS	155	0	25	1.8	0.0	113	0	34	0	10.1	0.0
CNJ	582593	0	84	1.6	0.5	582593	0	84	0	5.1	-0.3
COA	31	0	0	0.9	-0.1	30	0	3	0	7.3	1.0
DAL	252	1	40	1.6	0.4	250	0	40	0	7.5	0.3
FDX	676	0	36	1.4	0.5	392	0	35	0	7.8	0.2
GCO	111	0	11	2.0	0.2	80	0	100	0	12.8	2.0
GEC	257	0	15	1.1	0.1	254	0	21	0	10.9	0.9
HAL	895	2	49	2.3	0.0	891	0	44	0	8.4	0.8
HER	26	8	8	1.7	0.9	26	0	0	0	7.6	2.7
ICE	72	0	8	1.0	0.0	34	0	3	0	6.1	-0.8
JAL	23	0	4	1.5	0.5	23	0	4	0	5.6	-1.0
KAL	28	0	0	1.2	-0.3	28	0	0	0	6.4	0.1
KIW	77	5	42	3.2	0.9	92	1	15	0	12.9	-0.4
LAN	64	0	3	1.1	0.2	64	0	3	0	4.9	1.6
MAS	23	0	17	1.7	0.6	23	0	13	0	7.3	0.3
MPH	46	0	4	1.2	-0.2	22	0	9	0	8.8	2.7
NCA	32	3	3	1.1	0.1	29	3	10	0	12.7	-0.2
NWA	464	2	29	1.5	0.1	468	0	30	0	9.3	0.1
NZL	26546	0	57	1.1	0.0	26545	0	57	0	4.4	-0.2
OAE	64	0	22	1.8	-0.5	39	0	41	0	11.8	1.9
OCE	25	12	16	3.4	2.7	25	0	0	0	5.4	-0.2
PAL	27	0	37	0.9	-0.4	25	0	40	0	7.7	1.6
PBI	25	8	56	2.9	-0.5	25	4	52	0	5.6	1.1
QFA	138	1	54	1.3	0.2	140	0	51	0	5.0	0.1
RCH	27	4	100	2.8	-1.0	22	0	100	0	15.0	-1.3
RRR	75	20	32	3.2	1.9	65	0	17	0	10.1	0.0
SIA	64	0	3	1.0	0.3	65	0	3	0	4.1	0.2
SKI	160	2	39	3.1	0.2	258	2	49	0	14.3	0.4
SQC	22	0	0	0.9	0.4	22	0	0	0	5.2	-0.1
SVH	17885	0	60	1.6	1.1	17885	0	60	0	3.7	0.4
THA	23	0	4	1.5	1.1	23	0	4	0	4.3	0.7
THT	288	0	57	1.2	-0.4	226	0	51	0	4.5	-0.9
UAE	101	0	2	1.1	0.7	101	0	1	0	4.7	0.3
UAL	278	4	37	1.5	-0.1	295	0	35	0	8.0	0.6
UPS	308	0	51	1.1	0.0	176	0	49	0	5.8	0.2
VPF	27	0	0	2.0	1.1	27	0	4	0	7.8	-0.8
WOA	132	0	9	1.4	0.4	85	0	25	0	13.5	4.6

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AU	52260	0	62	1.8	0.5	52269	0	59	0	4.6	0.1
B-	74042	0	73	1.3	0.5	70706	0	76	0	4.9	0.1
EU	759733	0	72	1.0	0.1	755247	0	72	0	3.8	0.1
HK	18180	0	86	1.4	0.6	18180	0	86	0	4.9	-0.6
JP	281669	0	82	1.4	0.5	281669	0	81	0	4.6	0.5
MK	3134	0	51	1.1	0.4	3133	0	51	0	4.1	0.6
SA	4819	0	67	1.6	0.1	4819	0	67	0	4.9	0.0
UA	260418	0	99	1.1	-0.3	260132	0	99	0	4.4	0.4

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
N	47	2	21	2.5	0.3	38	0	13	0	5.3	-0.5
US AMDAR	2077947	0	81	1.2	0.3	2072864	0	82	0	4.1	0.3

Figure 3a. AIRCRAFT 300 - 150 hPa mean daily count. DECEMBER 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Global average number of observations in 24 hours = 69706



0	2	0	1	0	1	2	2	1	3	1	1	1	1	2	0	0	0	0			0				0	1	0	0				0	0	0	0
0	2		4	4	5	2	5	5	5	6	8	14	12	11	9	8	6	1	0	1	1	1	1	1	1	1	2	3		3	4	2	4	0	0
48	102	122	188	115	70	31	17	19	19	16	41	77	120	144	126	89	62	38	73	26	20	28	26	26	15	9	10	15	12	21	2	2	30	50	46
182	109	22	109	314	421	480	461	115	23	56	145	315	418	472	367	255	213	337	665	317	137	51	33	5	17	25	23	11	20	22	40	83	35	131	243
5	18	24	26	67	701	2256	4364	5427	4199	1930	361	197	167	151	119	135	374	1010	874	503	157	71	65	75	54	64	49	29	55	35	74	191	210	107	12
5	18	17	50	255	1248	6017	5209	4366	4284	2093	100	66	68	63	62	103	87	110	64	167	129	88	42	43	25	8	30	66	257	126	1447	313	48	50	34
1	35	653	398	137	17	63	182	324	843	660	138	60	73	64	40	33	6	70	34	16	38	45	44	33	44	60	20	16	140	254	111	53	12	10	10
1	12	9	12	7	1	0	6	56	173	106	98	28	10	17	52	40	1	66	18	20	25	6		6	26	22	41	23	49	19	3	34	3	4	4
10	13	14	10	7	1	1	0	0	2	43	26	22	7	27	31	12	34	32	9	27	13	2	1	14	6	5	18	31	7	11	0	1	1	0	0
40	54	37	28	1	0	0	0	0	2	14	17	35	11	45	9	0	13	78	36	35	17	5	5	16	13	12	4	55	47	30	16	0	0	0	17
45	35	29	9	0			0			7	15	45	63	20				39	79	67	44	7	18	21	5	1	0	9	47	46	52	5	2	13	42
48	40	9						0		6	16	36	50	15	13	14	14	14	50	156	44	7	2	2	2	2	2	2	17	35	51	65	48	97	77
25	3								0	1	17	26							9	88	6	0	0	0	0		0	0	16	34	54	197	172	245	106
4	3	2	1	1	0		0														3	4	0	0	2	3	3	3	4	3	1	0	15	51	38
	0	2	2	2	1	0	0															2	1	0	0	0	0	0	0	0					0
								0	0	0	0					0								0	0	0	0	0						0	
																											0							0	
														0																					

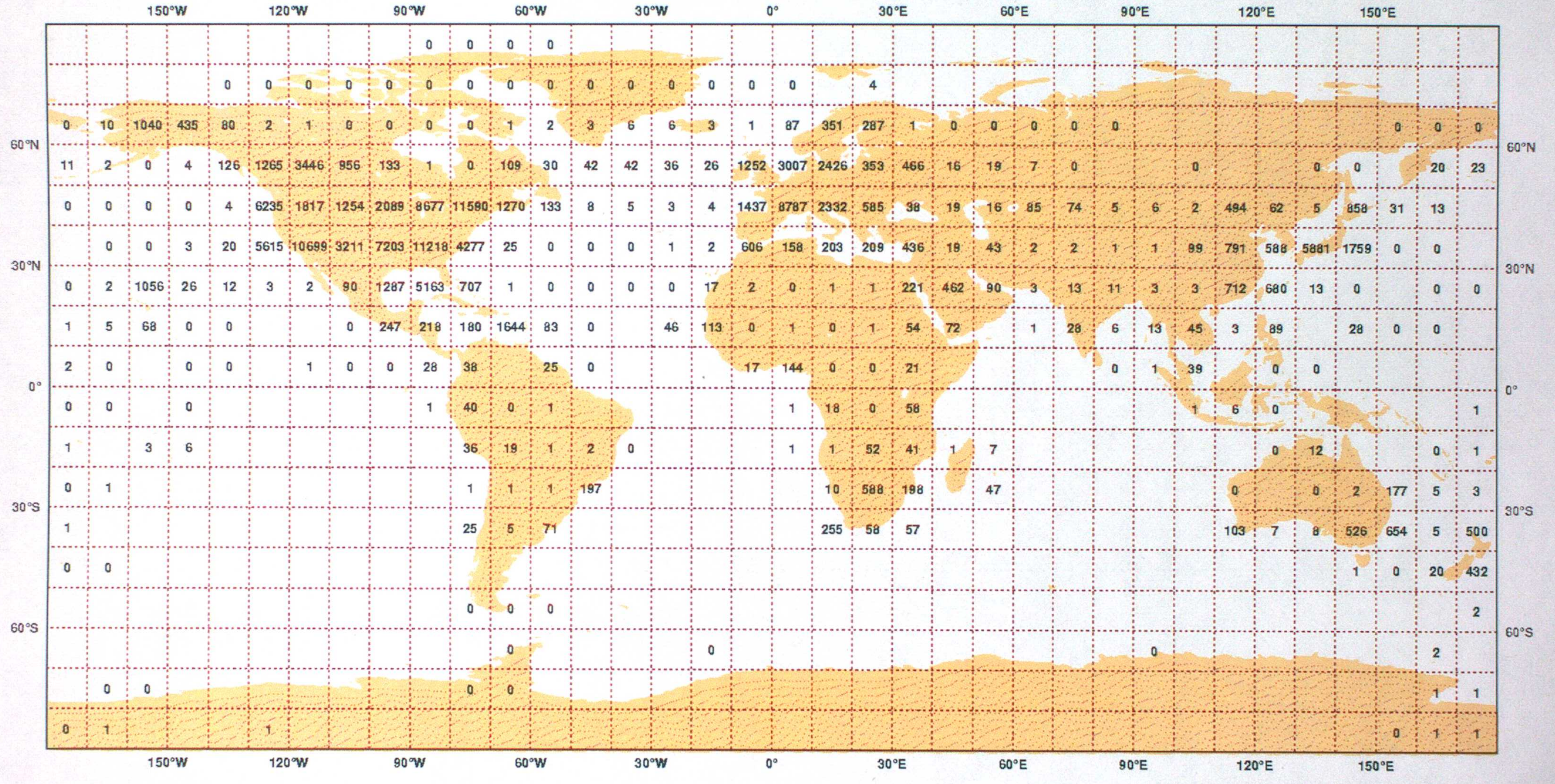


Figure 3b. AIRCRAFT 1000 - 301 hPa mean daily count. DECEMBER 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Global average number of observations in 24 hours = 135271

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 4
0 10 1040 435 80 2 1 0 0 0 0 1 2 3 6 6 3 1 87 351 287 1 0 0 0 0 0 0 0 0
11 2 0 4 126 1265 3446 956 133 1 0 109 30 42 42 36 26 1252 3007 2426 353 466 16 19 7 0 0 0 0 20 23
0 0 0 0 4 6235 1817 1254 2089 8677 11580 1270 133 8 5 3 4 1437 8787 2332 585 38 19 16 85 74 5 6 2 494 62 5 858 31 13
0 0 3 20 5615 10699 3211 7203 11218 4277 25 0 0 0 1 2 606 158 203 209 436 18 43 2 2 1 1 89 791 588 5881 1759 0 0
0 2 1056 26 12 3 2 90 1287 5163 707 1 0 0 0 0 17 2 0 1 1 221 462 90 3 13 11 3 3 712 680 13 0 0 0
1 5 68 0 0 0 247 218 180 1644 83 0 46 113 0 1 0 1 54 72 1 28 6 13 45 3 89 28 0 0
2 0 0 0 1 0 0 28 38 25 0 17 144 0 0 21 0 1 39 0 0
0 0 0 1 40 0 1 1 18 0 58 1 6 0 1
1 3 6 36 19 1 2 0 1 1 52 41 1 7 0 12 0 1
0 1 1 1 1 197 10 588 198 47 0 0 2 177 5 3
1 25 5 71 255 58 57 103 7 8 526 654 5 500
0 0 1 0 20 432
0 0 0 2
0 0 0 2
0 0 0 0 1 1
0 1 1 0 1 1

Figure 4a. AIRCRAFT 300 - 150 hPa mean winds. DECEMBER 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

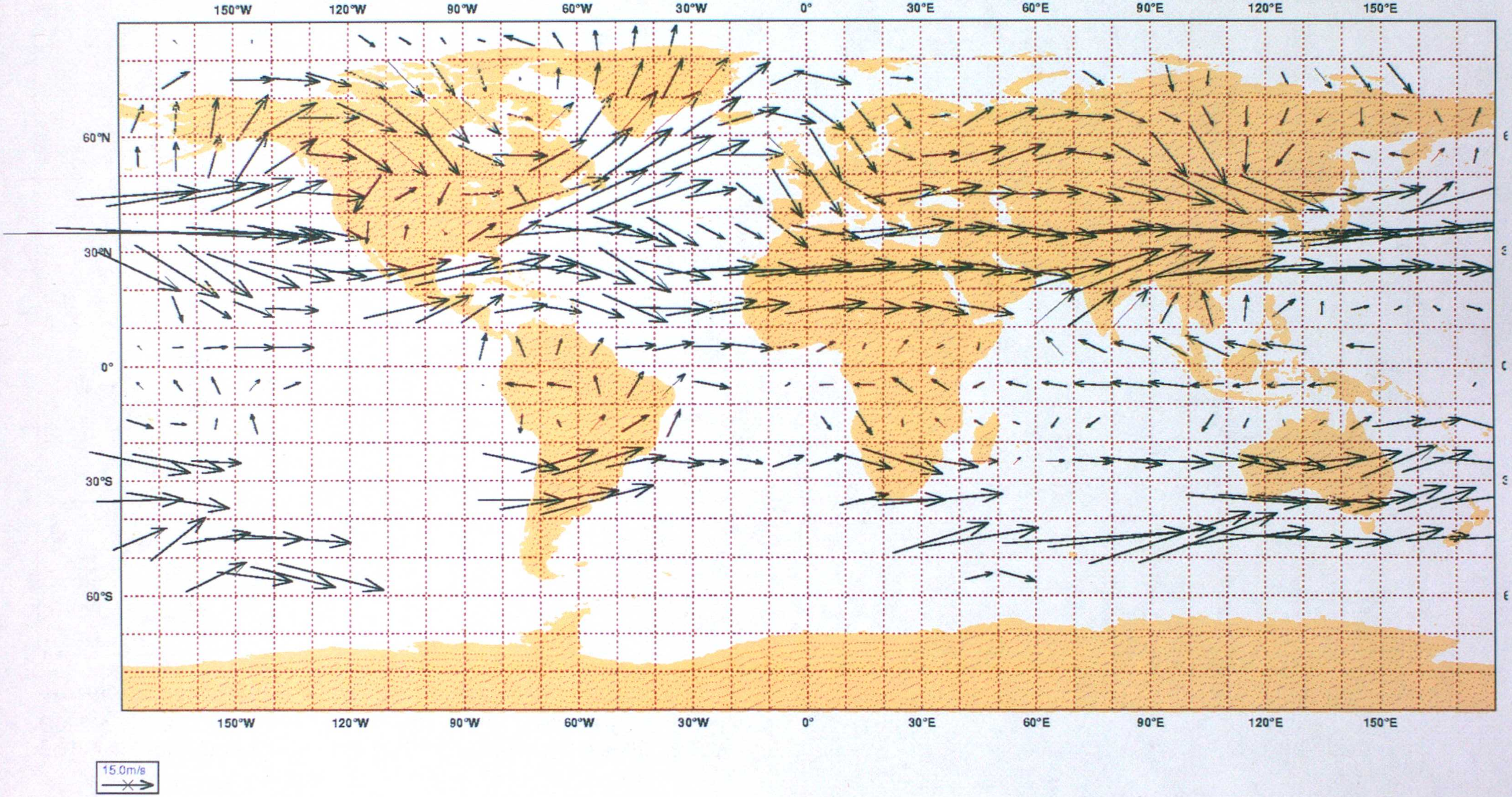

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 4b. AIRCRAFT 1000 - 301 hPa mean winds. DECEMBER 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

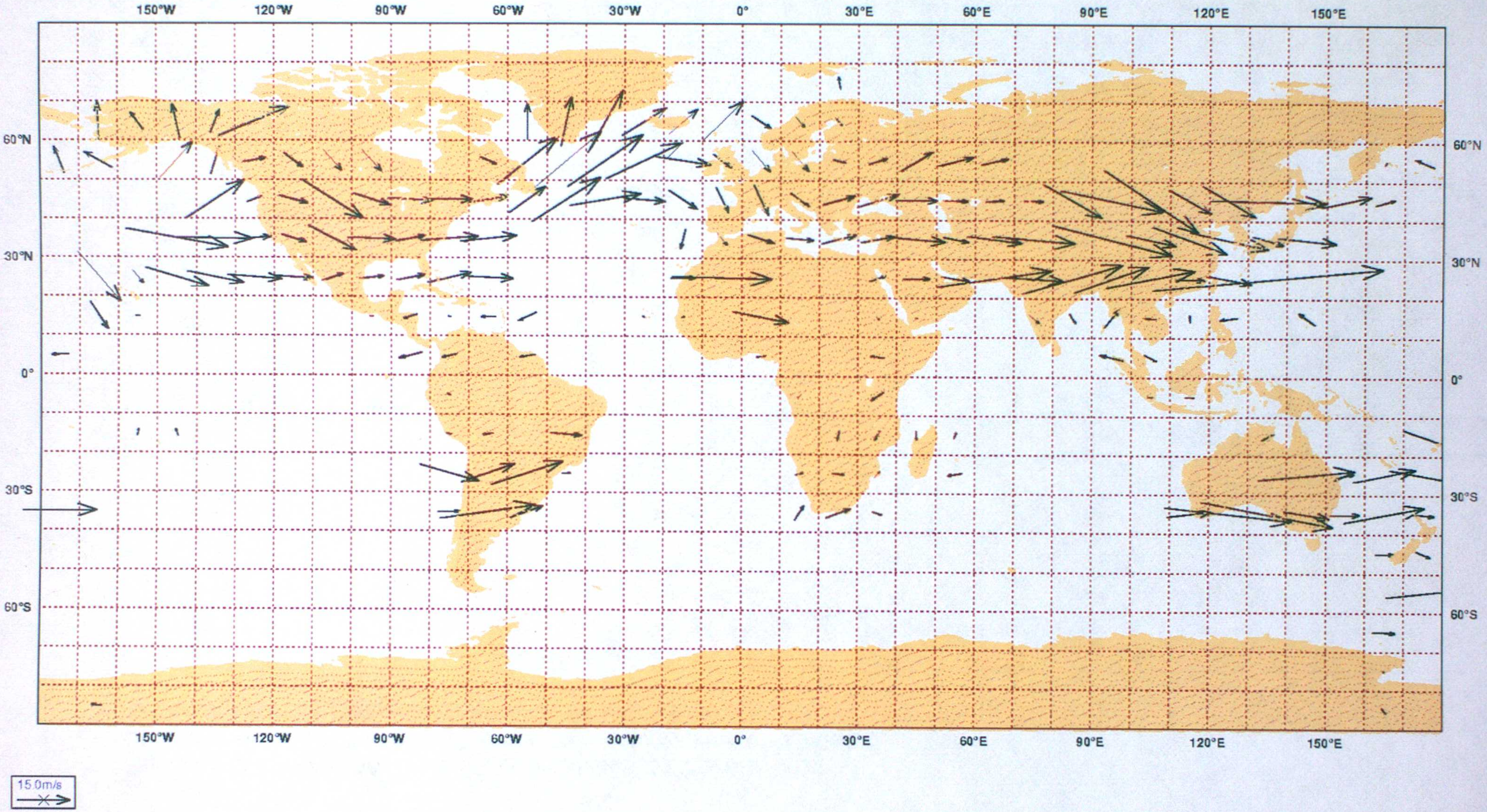

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 5a. AIRCRAFT 300 - 150 hPa mean O-B winds. DECEMBER 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

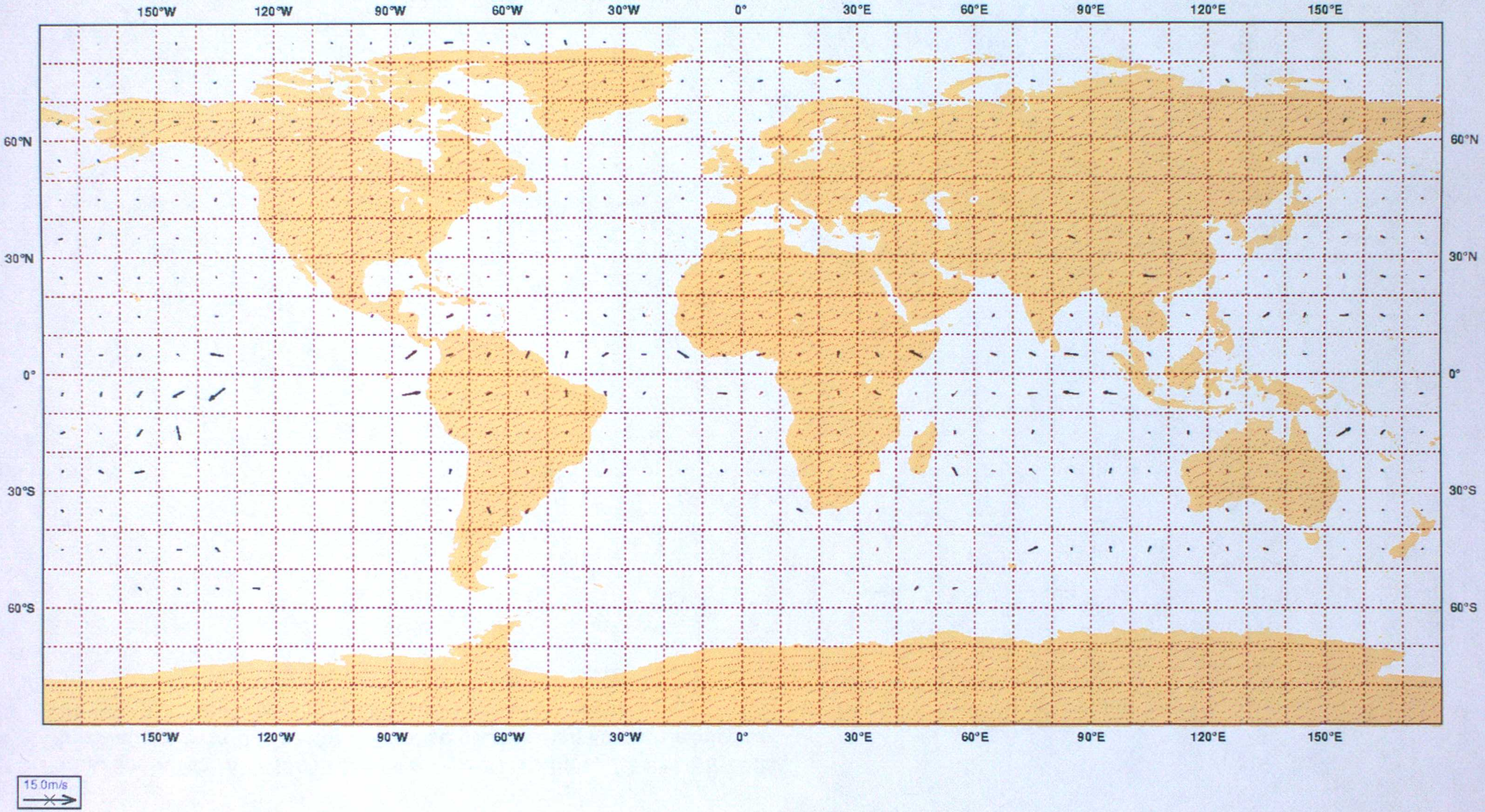

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 5b. AIRCRAFT 1000 - 301 hPa mean O-B winds. DECEMBER 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

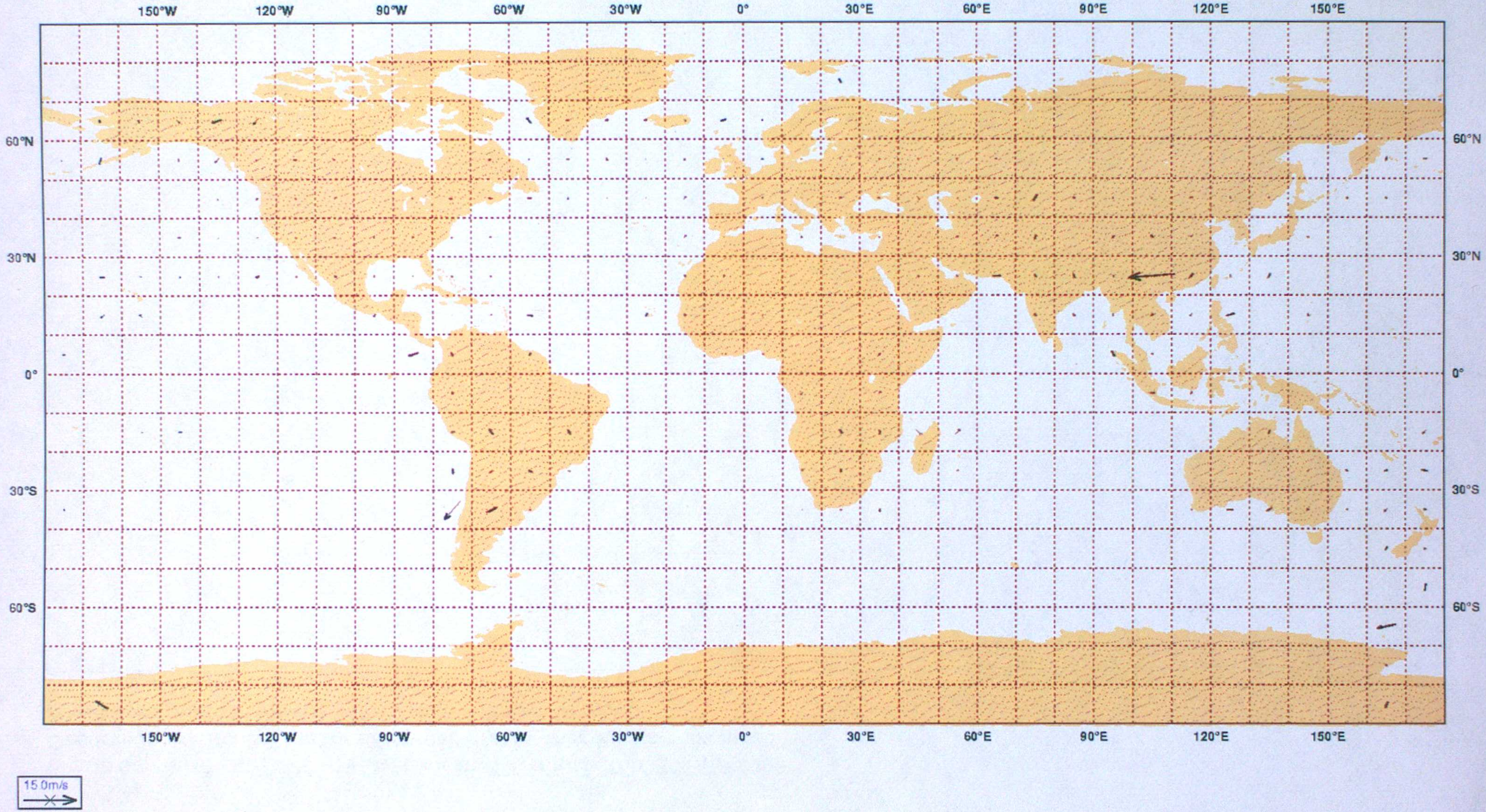

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 6a. AIRCRAFT 300 - 150 hPa mean O-B speeds (ms-1). DECEMBER 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present

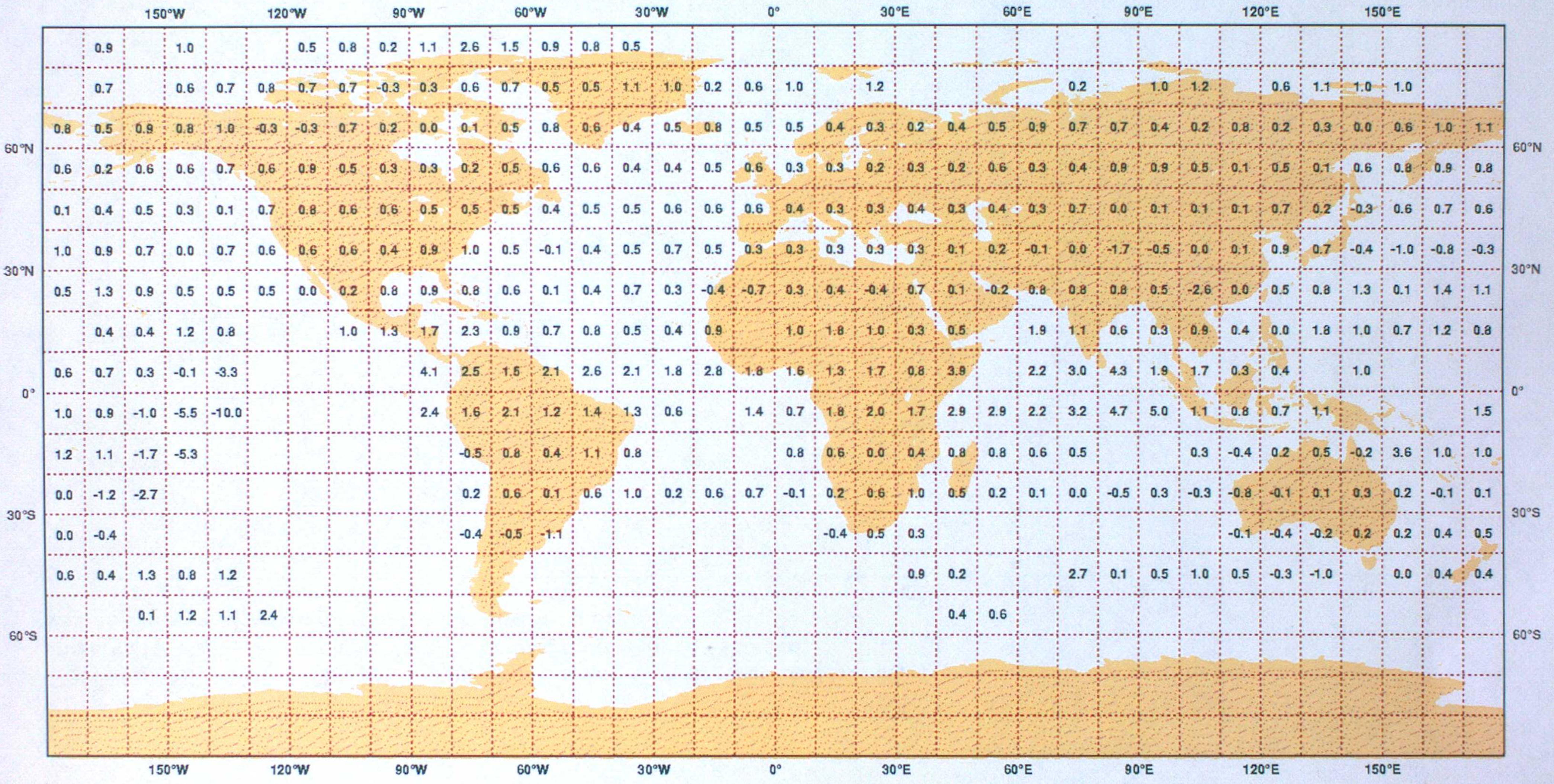

150°W 120°W 90°W 60°W 30°W 0° 30°E 60°E 90°E 120°E 150°E
60°N
30°N
0°
30°S
60°S
0.9 1.0 0.5 0.8 0.2 1.1 2.6 1.5 0.9 0.8 0.5
0.7 0.6 0.7 0.8 0.7 0.7 -0.3 0.3 0.6 0.7 0.5 0.5 1.1 1.0 0.2 0.6 1.0 1.2 0.2 1.0 1.2 0.6 1.1 1.0 1.0
0.8 0.5 0.9 0.8 1.0 -0.3 -0.3 0.7 0.2 0.0 0.1 0.5 0.8 0.6 0.4 0.5 0.8 0.5 0.5 0.4 0.3 0.2 0.4 0.5 0.9 0.7 0.7 0.4 0.2 0.8 0.2 0.3 0.0 0.6 1.0 1.1
0.6 0.2 0.6 0.6 0.7 0.6 0.9 0.5 0.3 0.3 0.2 0.5 0.6 0.6 0.4 0.4 0.5 0.6 0.3 0.3 0.2 0.3 0.2 0.6 0.3 0.4 0.9 0.9 0.5 0.1 0.5 0.1 0.6 0.8 0.9 0.8
0.1 0.4 0.5 0.3 0.1 0.7 0.8 0.6 0.6 0.5 0.5 0.5 0.4 0.5 0.5 0.6 0.6 0.6 0.4 0.3 0.3 0.4 0.3 0.4 0.3 0.7 0.0 0.1 0.1 0.1 0.7 0.2 -0.3 0.6 0.7 0.6
1.0 0.9 0.7 0.0 0.7 0.6 0.6 0.6 0.4 0.9 1.0 0.5 -0.1 0.4 0.5 0.7 0.5 0.3 0.3 0.3 0.3 0.3 0.1 0.2 -0.1 0.0 -1.7 -0.5 0.0 0.1 0.9 0.7 -0.4 -1.0 -0.8 -0.3
0.5 1.3 0.9 0.5 0.5 0.5 0.0 0.2 0.8 0.9 0.8 0.6 0.1 0.4 0.7 0.3 -0.4 -0.7 0.3 0.4 -0.4 0.7 0.1 -0.2 0.8 0.8 0.8 0.5 -2.6 0.0 0.5 0.8 1.3 0.1 1.4 1.1
0.4 0.4 1.2 0.8 1.0 1.3 1.7 2.3 0.9 0.7 0.8 0.5 0.4 0.9 1.0 1.8 1.0 0.3 0.5 1.9 1.1 0.6 0.3 0.9 0.4 0.0 1.8 1.0 0.7 1.2 0.8
0.6 0.7 0.3 -0.1 -3.3 4.1 2.5 1.5 2.1 2.6 2.1 1.8 2.8 1.8 1.6 1.3 1.7 0.8 3.9 2.2 3.0 4.3 1.9 1.7 0.3 0.4 1.0
1.0 0.9 -1.0 -5.5 -10.0 2.4 1.6 2.1 1.2 1.4 1.3 0.6 1.4 0.7 1.8 2.0 1.7 2.9 2.9 2.2 3.2 4.7 5.0 1.1 0.8 0.7 1.1 1.5
1.2 1.1 -1.7 -5.3 -0.5 0.8 0.4 1.1 0.8 0.8 0.6 0.0 0.4 0.8 0.8 0.6 0.5 0.3 -0.4 0.2 0.5 -0.2 3.6 1.0 1.0
0.0 -1.2 -2.7 0.2 0.6 0.1 0.6 1.0 0.2 0.6 0.7 -0.1 0.2 0.6 1.0 0.5 0.2 0.1 0.0 -0.5 0.3 -0.3 -0.8 -0.1 0.1 0.3 0.2 -0.1 0.1
0.0 -0.4 -0.4 -0.5 -1.1 -0.4 0.5 0.3 -0.1 -0.4 -0.2 0.2 0.2 0.4 0.5
0.6 0.4 1.3 0.8 1.2 0.9 0.2 2.7 0.1 0.5 1.0 0.5 -0.3 -1.0 0.0 0.4 0.4
0.1 1.2 1.1 2.4 0.4 0.6

Figure 6b. AIRCRAFT 1000 - 301 hPa mean O-B speeds (ms-1). DECEMBER 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present

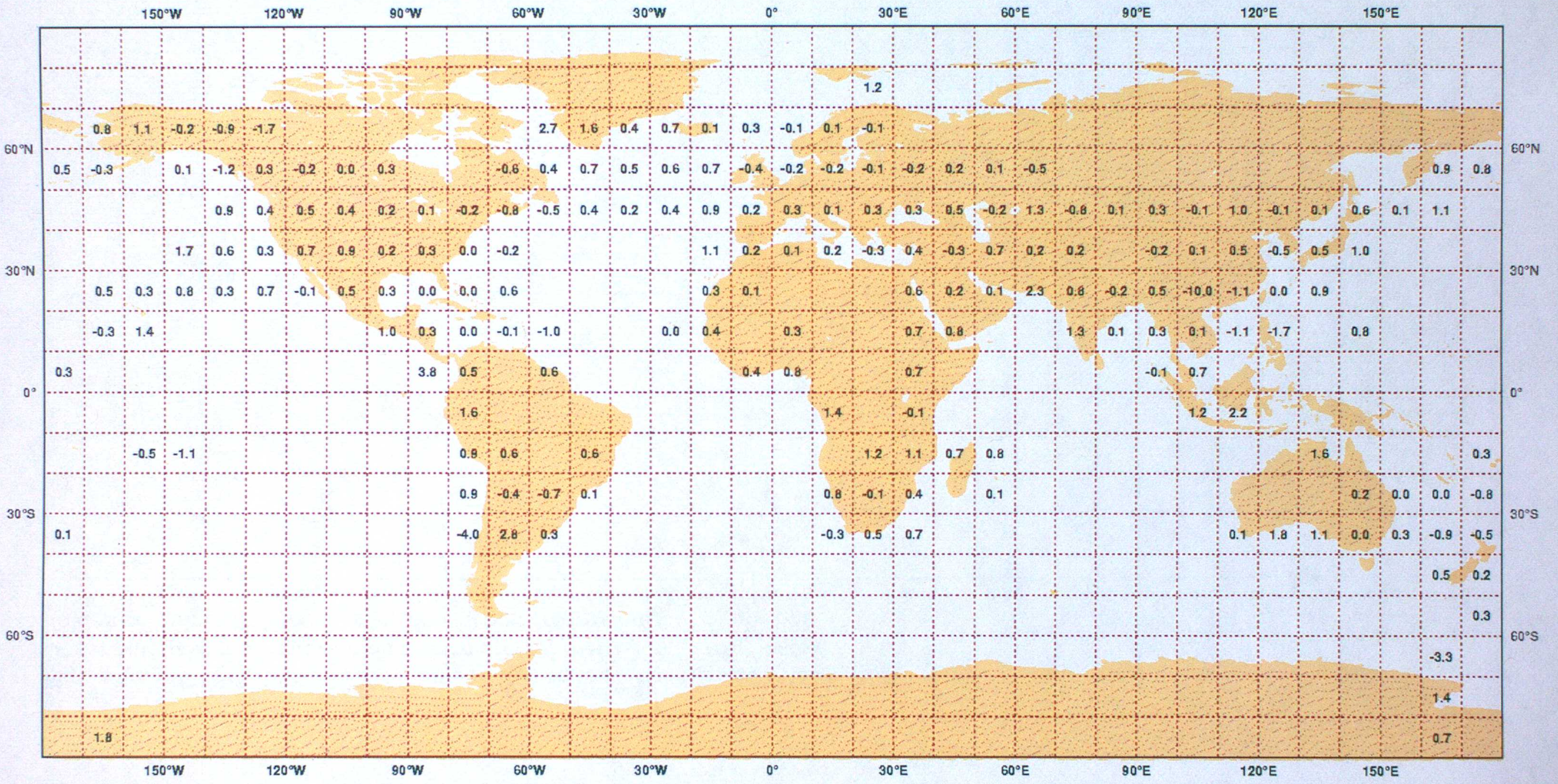

150°W 120°W 90°W 60°W 30°W 0° 30°E 60°E 90°E 120°E 150°E
60°N 30°N 0° 30°S 60°S
1.2
0.8 1.1 -0.2 -0.9 -1.7 2.7 1.6 0.4 0.7 0.1 0.3 -0.1 0.1 -0.1
0.5 -0.3 0.1 -1.2 0.3 -0.2 0.0 0.3 -0.6 0.4 0.7 0.5 0.6 0.7 -0.4 -0.2 -0.2 -0.1 -0.2 0.2 0.1 -0.5 0.9 0.8
0.9 0.4 0.5 0.4 0.2 0.1 -0.2 -0.8 -0.5 0.4 0.2 0.4 0.9 0.2 0.3 0.1 0.3 0.3 0.5 -0.2 1.3 -0.8 0.1 0.3 -0.1 1.0 -0.1 0.1 0.6 0.1 1.1
1.7 0.6 0.3 0.7 0.9 0.2 0.3 0.0 -0.2 1.1 0.2 0.1 0.2 -0.3 0.4 -0.3 0.7 0.2 0.2 -0.2 0.1 0.5 -0.5 0.5 1.0
0.5 0.3 0.8 0.3 0.7 -0.1 0.5 0.3 0.0 0.0 0.6 0.3 0.1 0.6 0.2 0.1 2.3 0.8 -0.2 0.5 -10.0 -1.1 0.0 0.9
-0.3 1.4 1.0 0.3 0.0 -0.1 -1.0 0.0 0.4 0.3 0.7 0.8 1.3 0.1 0.3 0.1 -1.1 -1.7 0.8
0.3 3.8 0.5 0.6 0.4 0.8 0.7 -0.1 0.7
1.6 1.4 -0.1 1.2 2.2
-0.5 -1.1 0.9 0.6 0.6 1.2 1.1 0.7 0.8 1.6 0.3
0.9 -0.4 -0.7 0.1 0.8 -0.1 0.4 0.1 0.2 0.0 0.0 -0.8
0.1 -4.0 2.8 0.3 -0.3 0.5 0.7 0.1 1.8 1.1 0.0 0.3 -0.9 -0.5
0.5 0.2
0.3
-3.3
1.4
1.8 0.7

Figure 7a. AIRCRAFT 300 - 150 hPa RMS O-B vector (ms-1). DECEMBER 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present

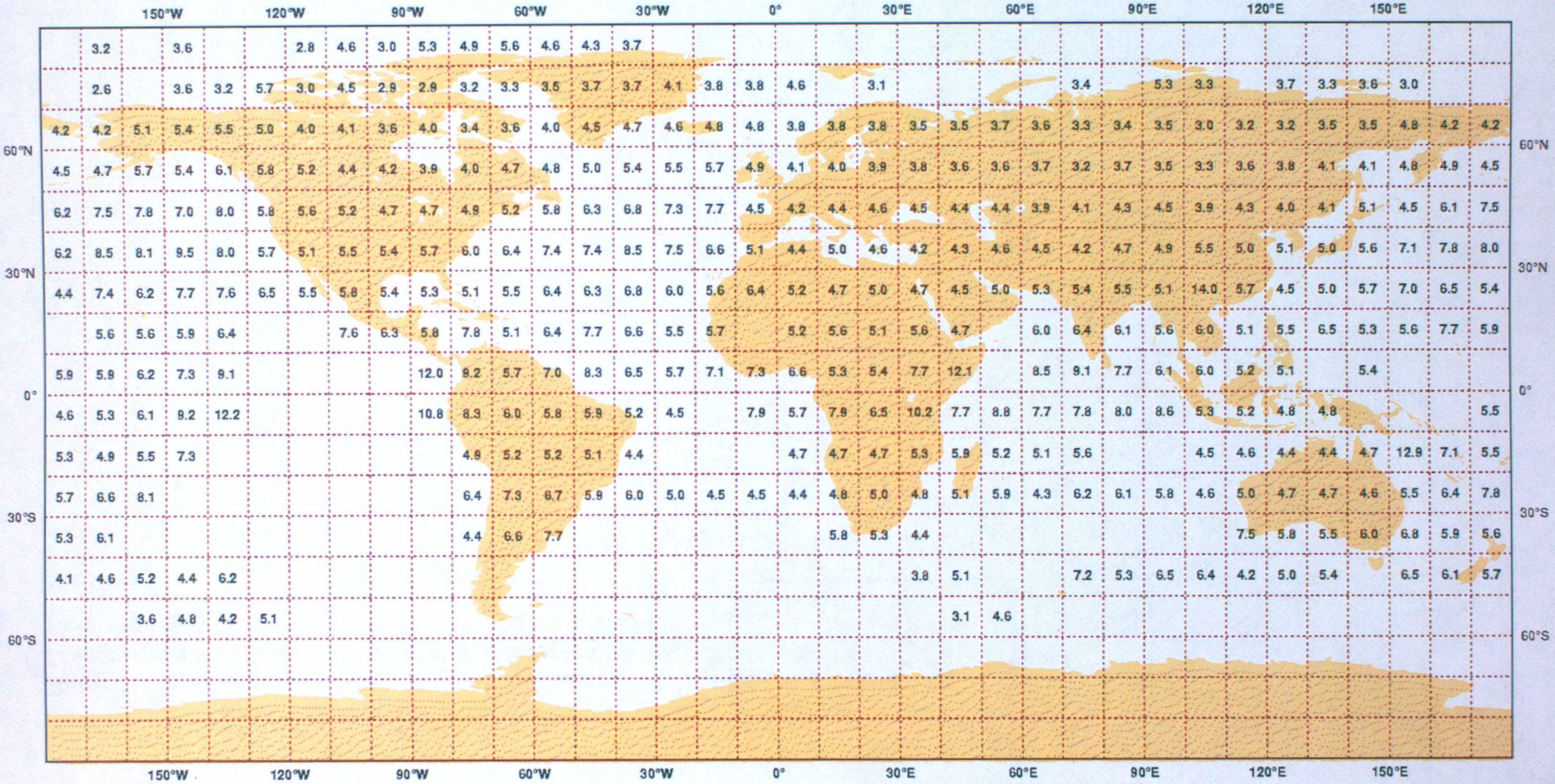

150°W 120°W 90°W 60°W 30°W 0° 30°E 60°E 90°E 120°E 150°E
60°N 30°N 0° 30°S 60°S
3.2 3.6 2.8 4.6 3.0 5.3 4.9 5.6 4.6 4.3 3.7
2.6 3.6 3.2 5.7 3.0 4.5 2.9 2.9 3.2 3.3 3.5 3.7 3.7 4.1 3.8 3.8 4.6 3.1 3.4 5.3 3.3 3.7 3.3 3.6 3.0
4.2 4.2 5.1 5.4 5.5 5.0 4.0 4.1 3.6 4.0 3.4 3.6 4.0 4.5 4.7 4.6 4.8 4.8 3.8 3.8 3.8 3.5 3.5 3.7 3.6 3.3 3.4 3.5 3.0 3.2 3.2 3.5 3.5 4.8 4.2 4.2
4.5 4.7 5.7 5.4 6.1 5.8 5.2 4.4 4.2 3.9 4.0 4.7 4.8 5.0 5.4 5.5 5.7 4.9 4.1 4.0 3.9 3.8 3.6 3.6 3.7 3.2 3.7 3.5 3.3 3.6 3.8 4.1 4.1 4.8 4.9 4.5
6.2 7.5 7.8 7.0 8.0 5.8 5.6 5.2 4.7 4.7 4.9 5.2 5.8 6.3 6.8 7.3 7.7 4.5 4.2 4.4 4.6 4.5 4.4 4.4 3.9 4.1 4.3 4.5 3.9 4.3 4.0 4.1 5.1 4.5 6.1 7.5
6.2 8.5 8.1 9.5 8.0 5.7 5.1 5.5 5.4 5.7 6.0 6.4 7.4 7.4 8.5 7.5 6.6 5.1 4.4 5.0 4.6 4.2 4.3 4.6 4.5 4.2 4.7 4.9 5.5 5.0 5.1 5.0 5.6 7.1 7.8 8.0
4.4 7.4 6.2 7.7 7.6 6.5 5.5 5.8 5.4 5.3 5.1 5.5 6.4 6.3 6.8 6.0 5.6 6.4 5.2 4.7 5.0 4.7 4.5 5.0 5.3 5.4 5.5 5.1 14.0 5.7 4.5 5.0 5.7 7.0 6.5 5.4
5.6 5.6 5.9 6.4 7.6 6.3 5.8 7.8 5.1 6.4 7.7 6.6 5.5 5.7 5.2 5.6 5.1 5.6 4.7 6.0 6.4 6.1 5.6 6.0 5.1 5.5 6.5 5.3 5.6 7.7 5.9
5.9 5.9 6.2 7.3 9.1 12.0 9.2 5.7 7.0 8.3 6.5 5.7 7.1 7.3 6.6 5.3 5.4 7.7 12.1 8.5 9.1 7.7 6.1 6.0 5.2 5.1 5.4
4.6 5.3 6.1 9.2 12.2 10.8 8.3 6.0 5.8 5.9 5.2 4.5 7.9 5.7 7.9 6.5 10.2 7.7 8.8 7.7 7.8 8.0 8.6 5.3 5.2 4.8 4.8 5.5
5.3 4.9 5.5 7.3 4.9 5.2 5.2 5.1 4.4 4.7 4.7 4.7 5.3 5.9 5.2 5.1 5.6 4.5 4.6 4.4 4.4 4.7 12.9 7.1 5.5
5.7 6.6 8.1 6.4 7.3 6.7 5.9 6.0 5.0 4.5 4.5 4.4 4.8 5.0 4.8 5.1 5.9 4.3 6.2 6.1 5.8 4.6 5.0 4.7 4.7 4.6 5.5 6.4 7.8
5.3 6.1 4.4 6.6 7.7 5.8 5.3 4.4 7.5 5.8 5.5 6.0 6.8 5.9 5.6
4.1 4.6 5.2 4.4 6.2 3.8 5.1 7.2 5.3 6.5 6.4 4.2 5.0 5.4 6.5 6.1 5.7
3.6 4.8 4.2 5.1 3.1 4.6

Figure 7b. AIRCRAFT 1000 - 301 hPa RMS O-B vector (ms-1). DECEMBER 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present

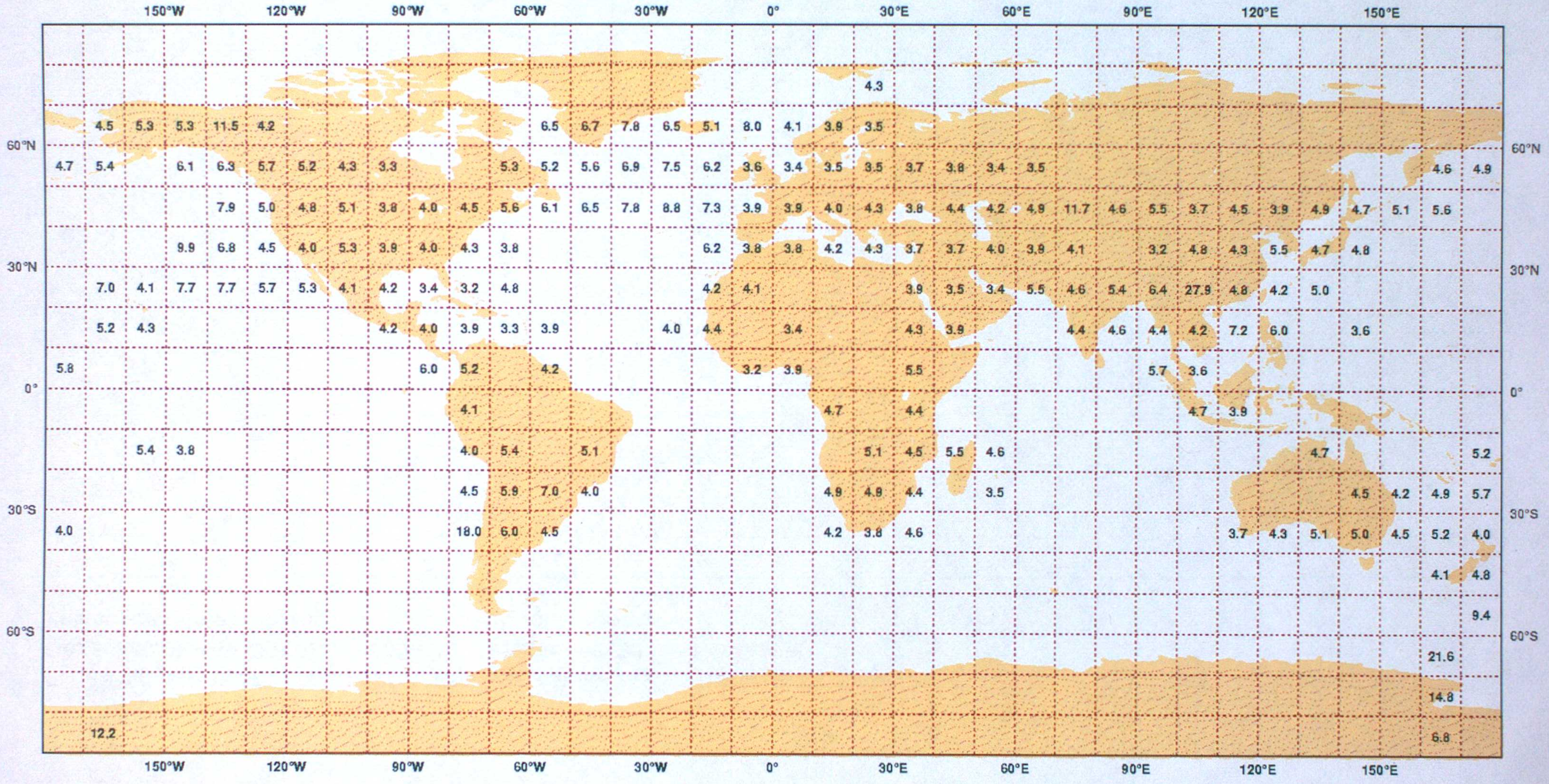

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
4.3
4.5 5.3 5.3 11.5 4.2 6.5 6.7 7.8 6.5 5.1 8.0 4.1 3.9 3.5
4.7 5.4 6.1 6.3 5.7 5.2 4.3 3.3 5.3 5.2 5.6 6.9 7.5 6.2 3.6 3.4 3.5 3.5 3.7 3.8 3.4 3.5 4.6 4.9
7.9 5.0 4.8 5.1 3.8 4.0 4.5 5.6 6.1 6.5 7.8 8.8 7.3 3.9 3.9 4.0 4.3 3.8 4.4 4.2 4.9 11.7 4.6 5.5 3.7 4.5 3.9 4.9 4.7 5.1 5.6
9.9 6.8 4.5 4.0 5.3 3.9 4.0 4.3 3.8 6.2 3.8 3.8 4.2 4.3 3.7 3.7 4.0 3.9 4.1 3.2 4.8 4.3 5.5 4.7 4.8
7.0 4.1 7.7 7.7 5.7 5.3 4.1 4.2 3.4 3.2 4.8 4.2 4.1 3.9 3.5 3.4 5.5 4.6 5.4 6.4 27.9 4.8 4.2 5.0
5.2 4.3 4.2 4.0 3.9 3.3 3.9 4.0 4.4 3.4 4.3 3.9 4.4 4.6 4.4 4.2 7.2 6.0 3.6
5.8 6.0 5.2 4.2 3.2 3.9 5.5 5.7 3.6
4.1 4.7 4.4 4.7 3.9
5.4 3.8 4.0 5.4 5.1 5.1 4.5 5.5 4.6 4.7 5.2
4.5 5.9 7.0 4.0 4.9 4.9 4.4 3.5 4.5 4.2 4.9 5.7
4.0 18.0 6.0 4.5 4.2 3.8 4.6 3.7 4.3 5.1 5.0 4.5 5.2 4.0
4.1 4.8
9.4
21.6
14.8
12.2 6.8

TABLE 5

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Dec 05

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:90°N - 90°S, 180°W - 180°E.
Standard of comparison		:Background field from UKMO global model.
Observation times		:00 UTC and 12 UTC.
Level(s) monitored		:Standard levels between 1000.0 - 30.0 hPa
Element monitored		:GEOPOTENTIAL HEIGHT IN metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period excluding those with gross errors.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
	:NUM LEVELS	:Number of levels satisfying selection criteria.
GROSS ERROR LIMITS	:Defined in Appendix I.1	
SELECTION CRITERIA	: ≥3 levels with ≥10 observations and ≥ 100 m weighted RMS.	

ONLY THE WORST LEVEL IS SHOWN WITH UNWEIGHTED RMS

WMO IDENT	OBS TIME	ELM	LEV	LAT/LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS	NUM LEVELS
23418	00	Z	200	65/ 57	21	0	51.3	113.8	124.8	7
23418	12	Z	250	65/ 57	24	0	41.2	110.7	118.1	8
31168	00	Z	70	56/ 138	14	4	93.5	170.6	194.6	8
42101	00	Z	1000	30/ 76	1	12	0.0	-85.0	85.0	9
42101	12	Z	200	30/ 76	8	2	76.9	44.9	89.0	5
42182	00	Z	1000	29/ 77	20	5	8.0	-85.6	86.0	7
42339	00	Z	1000	26/ 73	16	11	10.8	-76.1	76.8	9
42339	12	Z	1000	26/ 73	11	11	7.5	-88.3	88.6	8
42361	00	Z	1000	26/ 78	13	0	13.4	-76.8	77.9	4
42361	12	Z	1000	26/ 78	11	3	10.3	-87.5	88.2	4
42369	00	Z	200	27/ 81	16	0	78.8	-102.1	129.0	7
42369	12	Z	200	27/ 81	17	1	64.6	-82.2	104.5	7
42397	00	Z	500	27/ 88	19	0	32.0	-69.8	76.8	4
42647	00	Z	200	23/ 73	22	1	89.7	-122.1	151.5	10
42647	12	Z	50	23/ 73	12	0	132.1	228.1	263.6	5
42667	00	Z	200	23/ 77	22	0	54.1	-85.0	100.8	4
42701	00	Z	100	23/ 85	19	1	131.0	-127.0	182.5	7
42701	12	Z	150	23/ 85	22	1	101.5	-116.7	154.7	7
42724	00	Z	200	24/ 91	13	0	81.3	-90.6	121.8	5
42724	12	Z	250	24/ 91	14	3	65.6	-102.1	121.3	6
42809	00	Z	200	23/ 88	23	1	49.2	-118.3	128.1	9
42809	12	Z	200	23/ 88	23	3	70.8	-126.9	145.3	8
42867	00	Z	150	21/ 79	17	0	57.8	-142.7	154.0	8
42867	12	Z	100	21/ 79	18	0	67.4	-148.8	163.4	6
42971	00	Z	200	20/ 86	23	0	70.1	-85.8	110.8	6
42971	12	Z	100	20/ 86	14	1	92.7	-84.4	125.4	6
43003	00	Z	200	19/ 73	23	1	58.7	-175.3	184.9	12
43003	12	Z	200	19/ 73	22	0	73.4	-114.5	136.0	10
43128	00	Z	200	17/ 78	26	0	69.7	-117.5	136.7	7
43150	00	Z	1000	18/ 83	30	0	29.3	-43.6	52.5	12
43150	12	Z	1000	18/ 83	24	2	31.0	-38.2	49.2	9
43185	00	Z	200	16/ 81	22	1	46.5	-107.7	117.3	7
43192	00	Z	200	15/ 74	9	4	66.9	-145.9	160.5	9
43285	00	Z	200	13/ 75	23	0	63.5	-90.6	110.6	4
43333	00	Z	150	12/ 93	17	2	80.1	-130.6	153.2	6
43333	12	Z	200	12/ 93	19	3	64.5	-156.4	169.2	7
43346	00	Z	150	11/ 80	13	2	85.2	-162.1	183.1	6
43353	00	Z	1000	10/ 76	25	1	11.0	-85.0	85.7	5
43353	12	Z	1000	10/ 76	12	13	16.3	-85.7	87.2	6
43371	00	Z	100	8/ 77	18	5	89.1	-189.6	209.5	9
43371	12	Z	30	8/ 77	10	1	112.2	252.3	276.1	4
72376	00	Z	400	37/-108	31	0	40.7	41.0	57.8	4
72376	12	Z	300	37/-108	31	0	48.3	55.9	73.9	4
76723	12	Z	250	19/-111	11	0	81.0	-27.1	85.4	7
89592	00	Z	50	-67/ 93	20	0	75.7	119.4	141.4	4
96935	00	Z	1000	-7/ 113	10	3	22.4	-53.7	58.2	8
97014	00	Z	150	2/ 125	11	1	106.0	-39.3	113.0	6
97180	00	Z	1000	-5/ 120	11	2	37.2	-32.7	49.5	9
97560	00	Z	300	-1/ 136	9	2	73.8	-87.1	114.2	6

Figure 8. TEMP 500 hPa geopotential mean daily count. DECEMBER 2005
All hours
Global average number of observations in 24 hours = 1201

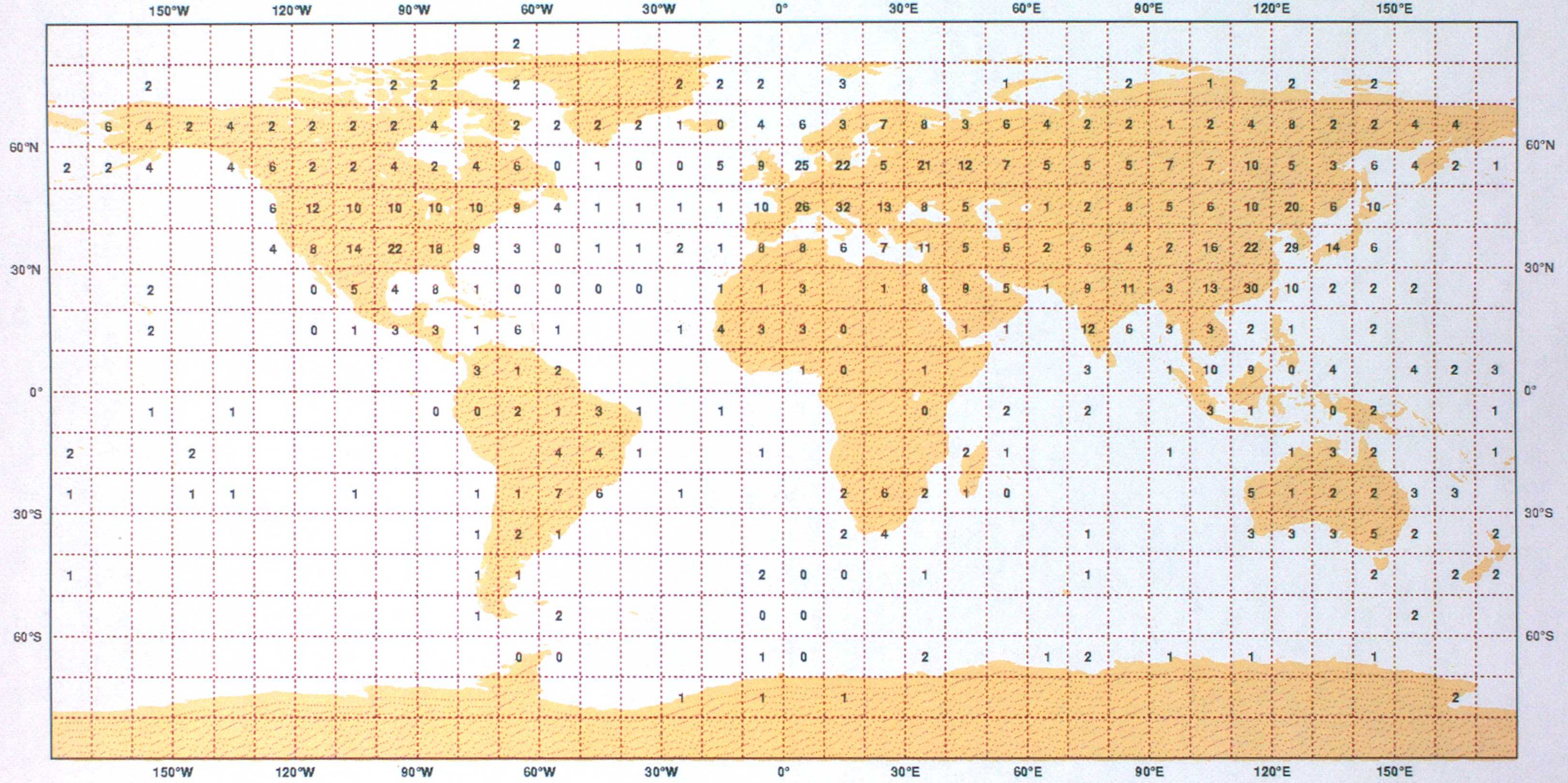

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
2
2 2 2 2 2 2 2 3 1 2 1 2 2
6 4 2 4 2 2 2 2 4 2 2 2 2 1 0 4 6 3 7 8 3 6 4 2 2 1 2 4 8 2 2 4 4
2 2 4 4 6 2 2 4 2 4 6 0 1 0 0 5 9 25 22 5 21 12 7 5 5 5 7 7 10 5 3 6 4 2 1
6 12 10 10 10 10 9 4 1 1 1 1 10 26 32 13 8 5 1 2 8 5 6 10 20 6 10
4 8 14 22 18 9 3 0 1 1 2 1 8 8 6 7 11 5 6 2 6 4 2 16 22 29 14 6
2 0 5 4 8 1 0 0 0 0 1 1 3 1 8 8 5 1 9 11 3 13 30 10 2 2 2
2 0 1 3 3 1 6 1 1 4 3 3 0 1 1 12 6 3 3 2 1 2
3 1 2 1 0 1 3 1 10 9 0 4 4 2 3
1 1 0 0 2 1 3 1 1 0 2 2 3 1 0 2 1
2 2 4 4 1 1 2 1 1 1 3 2 1
1 1 1 1 1 1 7 6 1 2 6 2 1 0 5 1 2 2 3 3
1 2 1 2 4 1 3 3 3 5 2 2
1 1 1 2 0 0 1 1 2 2 2
1 2 0 0 2
0 0 1 0 2 1 2 1 1 1
1 1 1 2

TABLE 6

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Dec 05

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for radiosonde TEMPs.

Area monitored :90°N - 90°S, 180°W - 180°E.

Standard of comparison :Background field from UKMO global model.

Observation times :00 UTC and 12 UTC.

Level(s) monitored :Standard levels between 1000.0 - 100.0 hPa

Element monitored :VECTOR WIND in m s^{-1}

Parameters monitored

:NUM OBS :Number of observations available at level shown during period.

:NUM GROSS :Number of gross errors at level shown during period.

:% REJ :Percentage of observations rejected by quality control at level shown during period excluding those with gross errors.

:UBIAS,VBIAS :Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.

:RMS :Root Mean Square difference of observations from background values at level shown excluding those with gross errors.

:NUM LEVELS :Number of levels satisfying selection criteria.

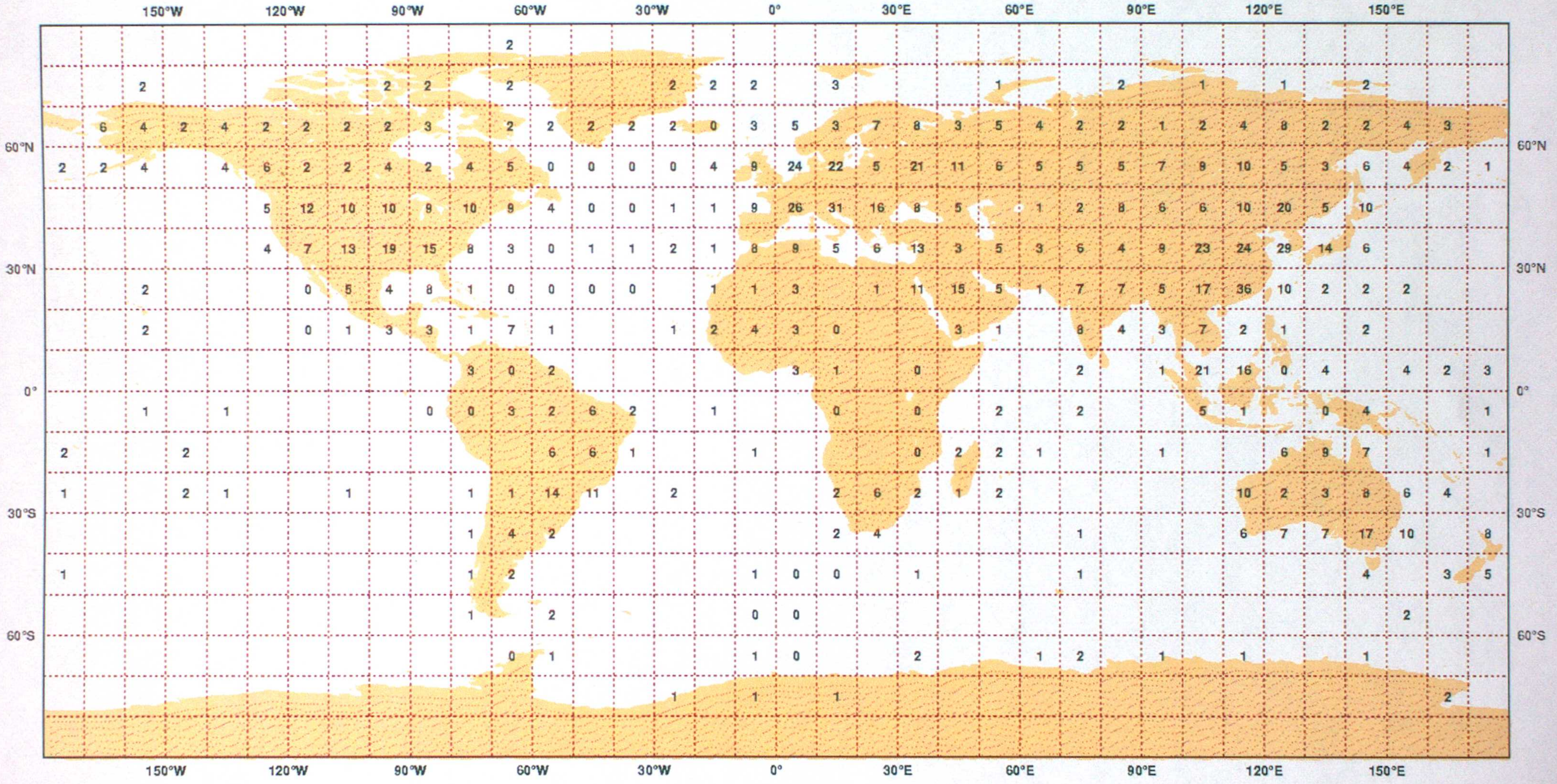
GROSS ERROR LIMITS :Defined in Appendix I.2

SELECTION CRITERIA : ≥ 10 observations and ≥ 15 m s^{-1} RMS vector wind.

ONLY THE STANDARD LEVEL BETWEEN 1000 - 100 hPa WITH HIGHEST RMS IS SHOWN

WMO IDENT	OBS TIME	ELM	LEV	LAT/LONG	NUM OBS	NUM GROSS	% REJ	UBIAS	VBIAS	RMS	LEVELS
JBI	12	V	100	-2/ 104	16	0	6	9.5	1.2	15.6	1
04339	00	V	300	70/ -22	30	0	20	1.7	-0.5	15.6	1
07761	00	V	200	42/ 9	23	0	43	-3.6	2.8	19.1	1
07761	12	V	300	42/ 9	20	0	35	-3.8	4.0	19.4	4
41594	00	V	200	32/ 73	18	0	100	-18.9	2.3	29.9	5
41768	12	V	500	26/ 70	12	0	100	-12.9	0.2	15.0	1
42101	00	V	250	30/ 76	13	0	100	-10.3	-3.9	23.1	1
42182	00	V	200	29/ 77	26	0	100	-2.2	-17.9	19.5	4
42182	12	V	200	29/ 77	28	0	100	-3.7	-17.8	22.3	4
42339	00	V	150	26/ 73	24	0	41	-8.6	-0.9	15.1	1
42369	00	V	200	27/ 81	15	0	86	-14.2	-7.0	19.7	3
42369	12	V	200	27/ 81	14	0	100	-18.6	-6.5	23.7	4
42647	00	V	100	23/ 73	15	0	100	-15.7	-1.2	17.6	1
42701	00	V	150	23/ 85	21	0	100	-12.8	-0.8	16.9	4
43599	12	V	150	-1/ 73	27	0	100	13.0	-0.5	17.0	1
47158	00	V	200	35/ 127	26	0	7	-3.6	1.5	19.3	1
48568	12	V	150	7/ 101	18	0	100	11.8	-7.1	16.9	1
54497	00	V	150	40/ 124	16	0	75	-11.0	2.2	21.2	5
54497	12	V	250	40/ 124	28	0	50	-10.2	6.8	25.8	5
58203	12	V	100	33/ 116	28	0	35	12.9	0.9	19.3	1
58968	00	V	300	25/ 122	29	0	100	-5.5	-13.3	15.0	1
60590	12	V	400	31/ 3	11	0	100	-13.8	2.9	18.7	1
60620	12	V	250	28/ 0	10	0	100	-36.0	-5.2	43.2	3
62337	12	V	200	31/ 34	28	0	100	-5.1	2.4	15.8	1
62378	00	V	200	30/ 31	25	1	100	-3.4	0.9	15.5	2
62378	12	V	250	30/ 31	28	0	100	-8.3	3.2	16.2	1
68461	12	V	500	-28/ 28	12	0	100	10.4	3.3	18.9	1
72376	00	V	250	37/-108	31	0	100	-7.3	5.4	15.9	2
72376	12	V	250	37/-108	31	0	100	-6.8	4.5	16.7	2
76723	12	V	150	19/-111	10	0	20	8.9	2.6	16.7	2
89009	00	V	300	-90/ 0	29	0	100	0.6	-12.0	20.8	2
89009	12	V	300	-90/ 0	25	0	100	0.4	-11.2	19.2	2
94711	00	V	250	-31/ 146	31	0	3	-1.6	-2.8	15.9	2
96195	00	V	100	-2/ 104	20	0	0	12.4	-0.5	17.2	1
96195	12	V	100	-2/ 104	18	0	0	10.5	0.8	15.9	1

Figure 9. TEMP/PILOT 300 hPa wind mean daily count. DECEMBER 2005
All hours
Global average number of observations in 24 hours = 1340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120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
2
2 2 2 2 2 2 2 3 1 2 1 1 2
6 4 2 4 2 2 2 2 3 2 2 2 2 2 0 3 5 3 7 8 3 5 4 2 2 1 2 4 8 2 2 4 3
2 2 4 4 6 2 2 4 2 4 5 0 0 0 0 4 9 24 22 5 21 11 6 5 5 5 7 9 10 5 3 6 4 2 1
5 12 10 10 9 10 9 4 0 0 1 1 9 26 31 16 8 5 1 2 8 6 6 10 20 5 10
4 7 13 19 15 8 3 0 1 1 2 1 8 9 5 6 13 3 5 3 6 4 9 23 24 29 14 6
2 0 5 4 8 1 0 0 0 0 1 1 3 1 11 15 5 1 7 7 5 17 36 10 2 2 2
2 0 1 3 3 1 7 1 1 2 4 3 0 3 1 8 4 3 7 2 1 2
3 0 2 3 1 0 2 1 21 16 0 4 4 2 3
1 1 0 0 3 2 6 2 1 0 0 2 2 5 1 0 4 1
2 2 6 6 1 1 0 2 2 1 1 6 9 7 1
1 2 1 1 1 1 14 11 2 2 6 2 1 2 10 2 3 8 6 4
1 4 2 2 4 1 6 7 7 17 10 8
1 1 2 1 0 0 1 1 4 3 5
1 2 0 0 2
0 1 1 0 2 1 2 1 1 1
1 1 1 2

TABLE 7

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Dec 05

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:90°N - 90°S, 180°W - 180°E.
Standard of comparison		:Background field from UKMO global model.
Observation times		:00 UTC and 12 UTC.
Level(s) monitored		:Standard levels between 500.0 - 150.0 hPa
Element monitored		:WIND DIRECTION in degrees
Parameters monitored		
	:NUM OBS	:Average number of observations at all levels.
	:BIAS	:Mean difference of observations from background values from all levels.
	:MAX SPREAD	:(For observation - background values) Maximum absolute difference of SD at any level from SD at all levels
	:SD	:SD of difference of observations from background values at all levels.

SELECTION CRITERIA :NUM OBS ≥ 5, and
ABSOLUTE BIAS ≥ 10°, with
SD < 30°, and
MAX SPREAD < 10°

WMO IDENT	OBS TIME	ELM	LAT/LONG	NUM OBS	BIAS	MAX SPREAD	SD
07761	12	DD	42/ 9	17	-20.2	3.4	26.3
08594	12	DD	17/ -23	20	13.2	3.1	9.1
33791	12	DD	48/ 33	24	-12.2	3.3	9.1
34731	00	DD	47/ 40	24	12.9	3.3	11.6
34731	12	DD	47/ 40	22	11.6	3.7	11.9
42182	00	DD	29/ 77	26	17.9	3.0	6.1
42182	12	DD	29/ 77	27	18.2	3.1	6.2
58968	00	DD	25/ 122	29	18.0	2.3	4.8
58968	12	DD	25/ 122	28	18.2	0.9	3.9
59758	00	DD	20/ 110	30	10.1	3.9	12.2
61995	12	DD	-20/ 57	18	-13.8	5.0	28.1
78397	12	DD	18/ -77	25	10.8	4.4	11.9

MONITORING OF SATELLITE WINDS

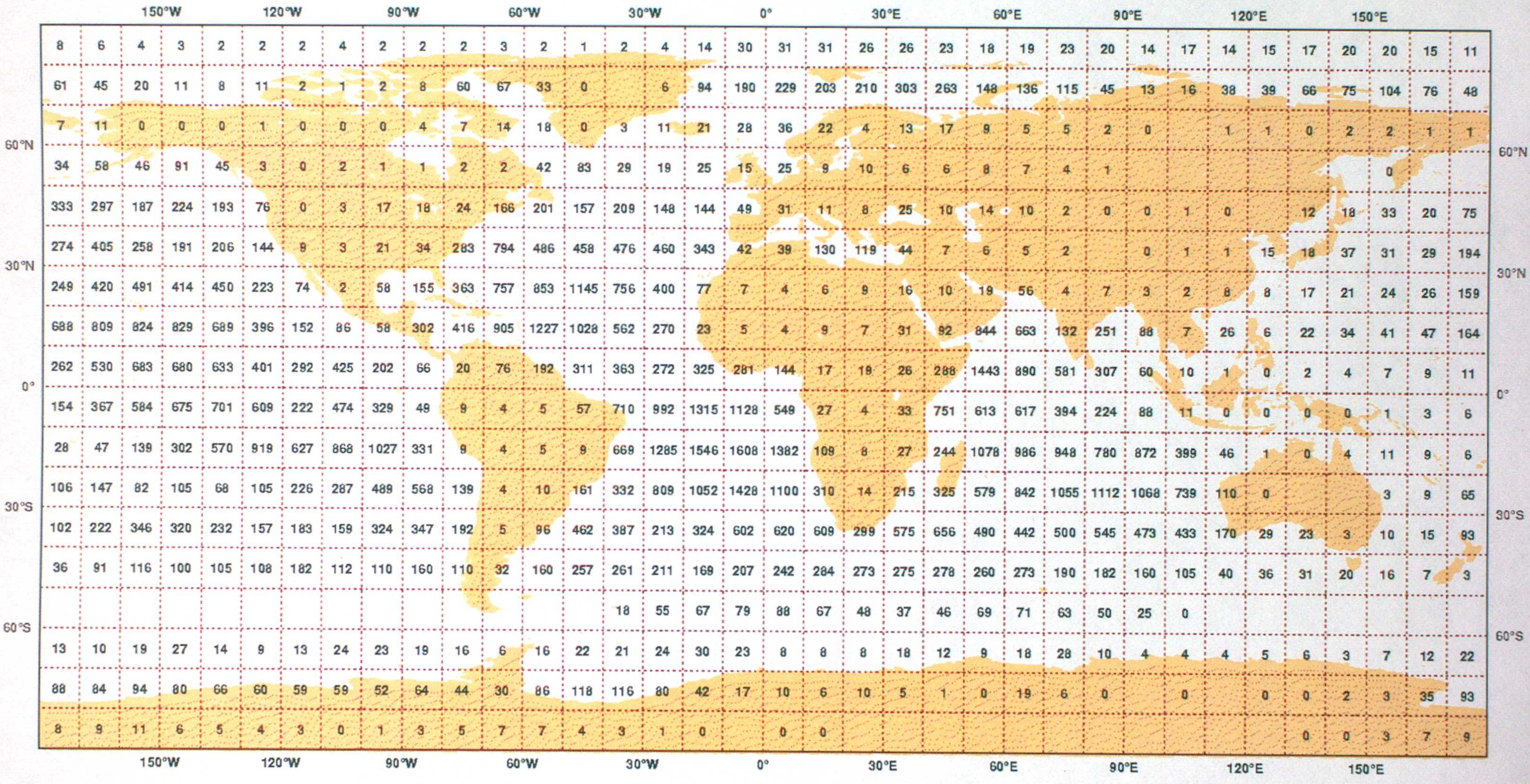
MONITORING CENTRE: EXETER

MONTH: Dec 05

Monitoring procedures

Period	:One calendar month.
Data monitored	:Reports from GOES-9, GOES-10, GOES-12, METEOSAT-5, METEOSAT-7
Standard of comparison	:Background field from UKMO global model.
Selection Criteria	:number of observations > 10.
Data Extracted	:Layer 701 - 1000 hPa 401 - 700 hPa 101 - 400 hPa
	:Mean wind
	:Mean observation minus background vector wind differences
	:Mean observation minus background speed differences
	:RMS of observation minus background vector differences

Figure 10. SATOB 701 - 1000 hPa mean daily count. DECEMBER 2005
Global average number of observations in 24 hours = 102118



8	6	4	3	2	2	2	4	2	2	2	3	2	1	2	4	14	30	31	31	26	26	23	18	19	23	20	14	17	14	15	17	20	20	15	11
61	45	20	11	8	11	2	1	2	8	60	67	33	0		6	94	190	229	203	210	303	263	148	136	115	45	13	16	38	39	66	75	104	76	48
7	11	0	0	0	1	0	0	0	4	7	14	18	0	3	11	21	28	36	22	4	13	17	9	5	5	2	0		1	1	0	2	2	1	1
34	58	46	91	45	3	0	2	1	1	2	2	42	83	29	19	25	15	25	9	10	6	6	8	7	4	1							0		
333	297	187	224	193	76	0	3	17	18	24	166	201	157	209	148	144	49	31	11	8	25	10	14	10	2	0	0	1	0		12	18	33	20	75
274	405	258	191	206	144	9	3	21	34	283	794	486	458	476	460	343	42	39	130	119	44	7	6	5	2		0	1	1	15	18	37	31	29	194
249	420	491	414	450	223	74	2	58	155	363	757	853	1145	756	400	77	7	4	6	9	16	10	19	56	4	7	3	2	8	8	17	21	24	26	159
688	809	824	829	689	396	152	86	58	302	416	905	1227	1028	562	270	23	5	4	9	7	31	92	844	663	132	251	88	7	26	6	22	34	41	47	164
262	530	683	680	633	401	292	425	202	66	20	76	192	311	363	272	325	281	144	17	19	26	288	1443	890	581	307	60	10	1	0	2	4	7	9	11
154	367	584	675	701	609	222	474	329	49	9	4	5	57	710	992	1315	1128	549	27	4	33	751	613	617	394	224	88	11	0	0	0	0	1	3	6
28	47	139	302	570	919	627	868	1027	331	9	4	5	9	669	1285	1546	1608	1382	109	8	27	244	1078	986	948	780	872	399	46	1	0	4	11	9	6
106	147	82	105	68	105	226	287	489	568	139	4	10	161	332	809	1052	1428	1100	310	14	215	325	579	842	1055	1112	1068	739	110	0			3	9	65
102	222	346	320	232	157	183	159	324	347	192	5	96	462	387	213	324	602	620	609	299	575	656	490	442	500	545	473	433	170	29	23	3	10	15	93
36	91	116	100	105	108	182	112	110	160	110	32	160	257	261	211	169	207	242	284	273	275	278	260	273	190	182	160	105	40	36	31	20	16	7	3
														18	55	67	79	88	67	48	37	46	69	71	63	50	25	0							
13	10	19	27	14	9	13	24	23	19	16	6	16	22	21	24	30	23	8	8	8	18	12	9	18	28	10	4	4	4	5	6	3	7	12	22
88	84	94	80	66	60	59	59	52	64	44	30	86	118	116	80	42	17	10	6	10	5	1	0	19	6	0		0		0	0	2	3	35	93
8	9	11	6	5	4	3	0	1	3	5	7	7	4	3	1	0		0	0												0	0	3	7	9

Figure 11. SATOB 701 - 1000 hPa vector mean wind. DECEMBER 2005
All observations
Arrows are plotted where greater than 10 obs are present

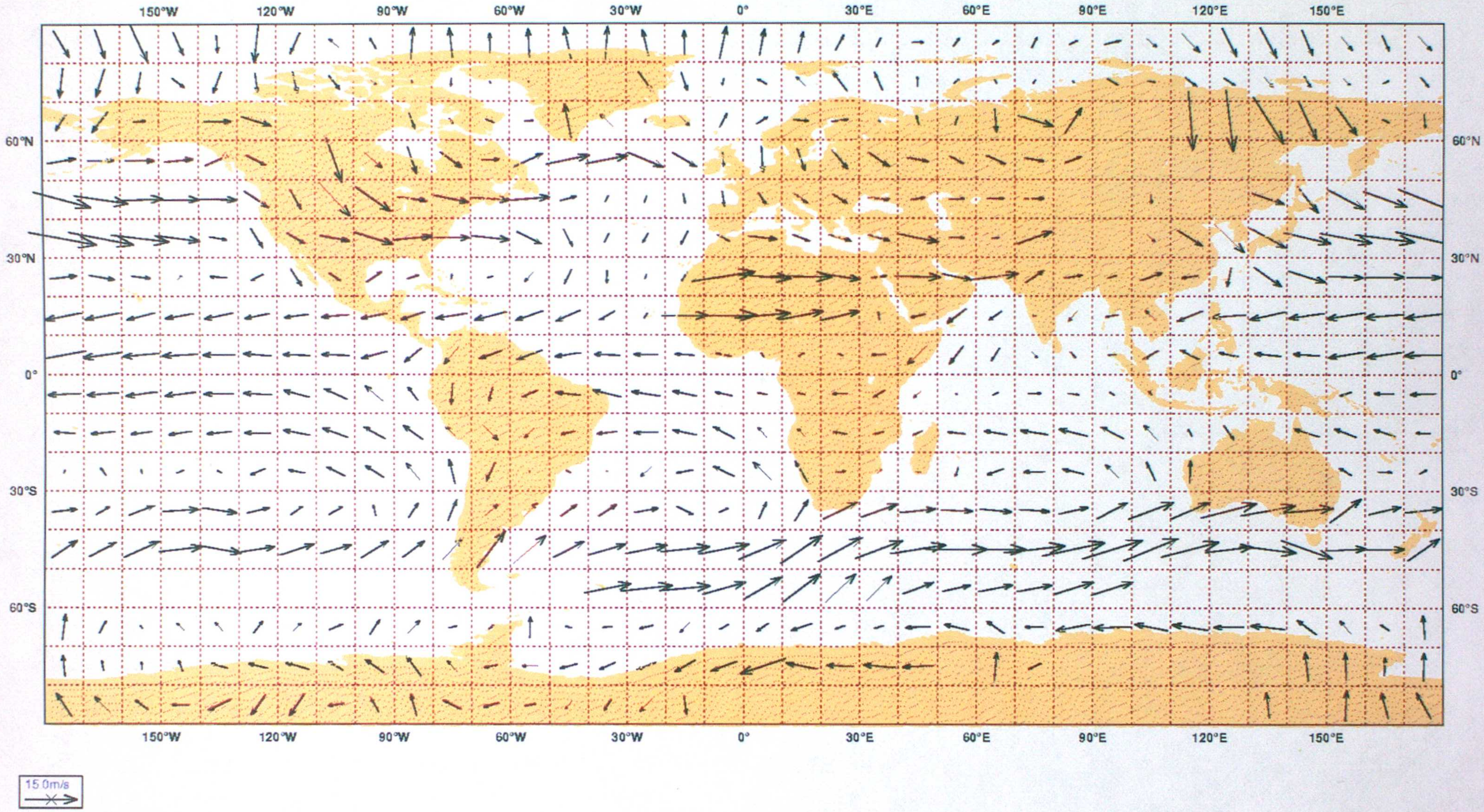

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 12. SATOB 701 - 1000 hPa mean vector wind differences. DECEMBER 2005
All observations
Arrows are plotted where greater than 10 obs are present

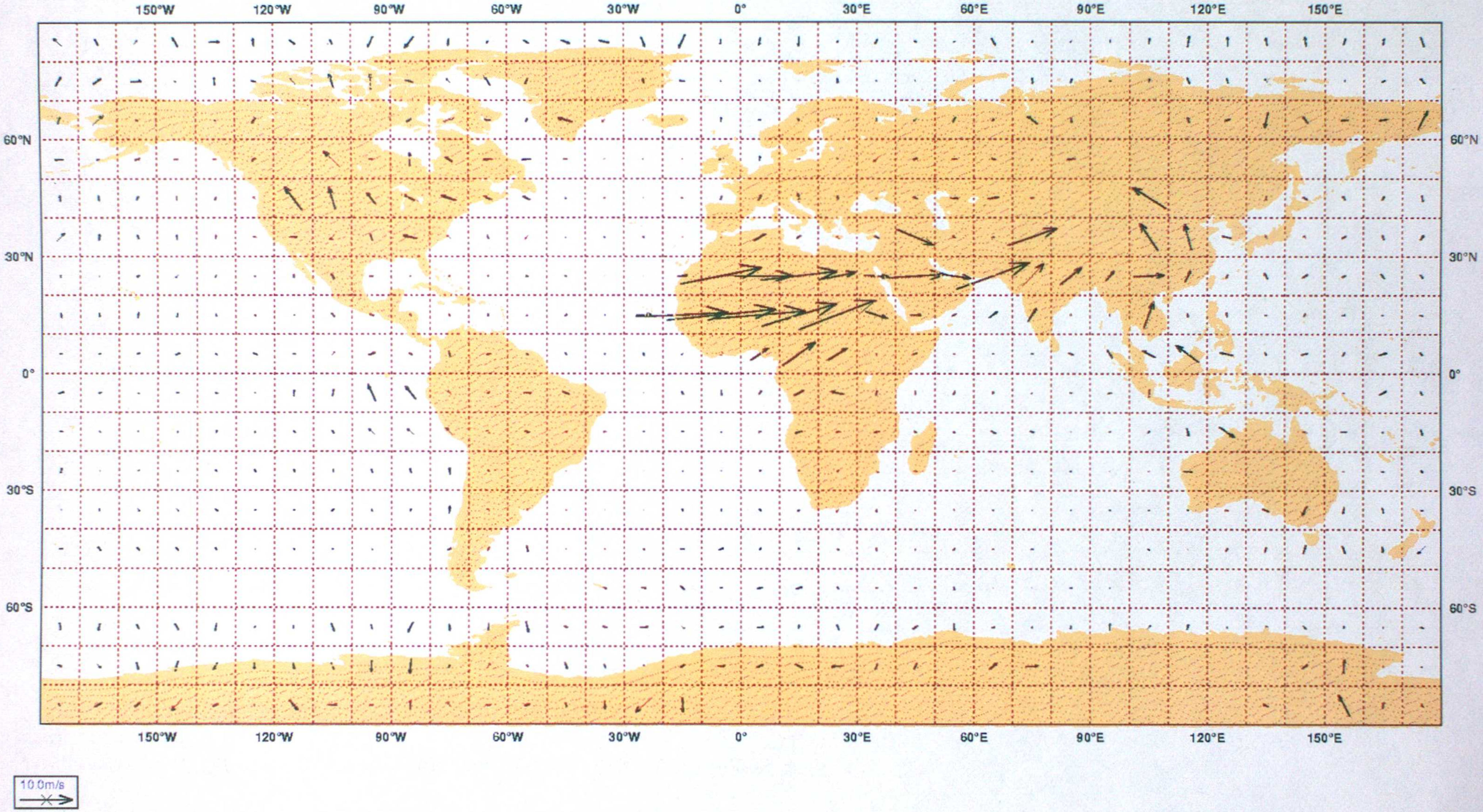
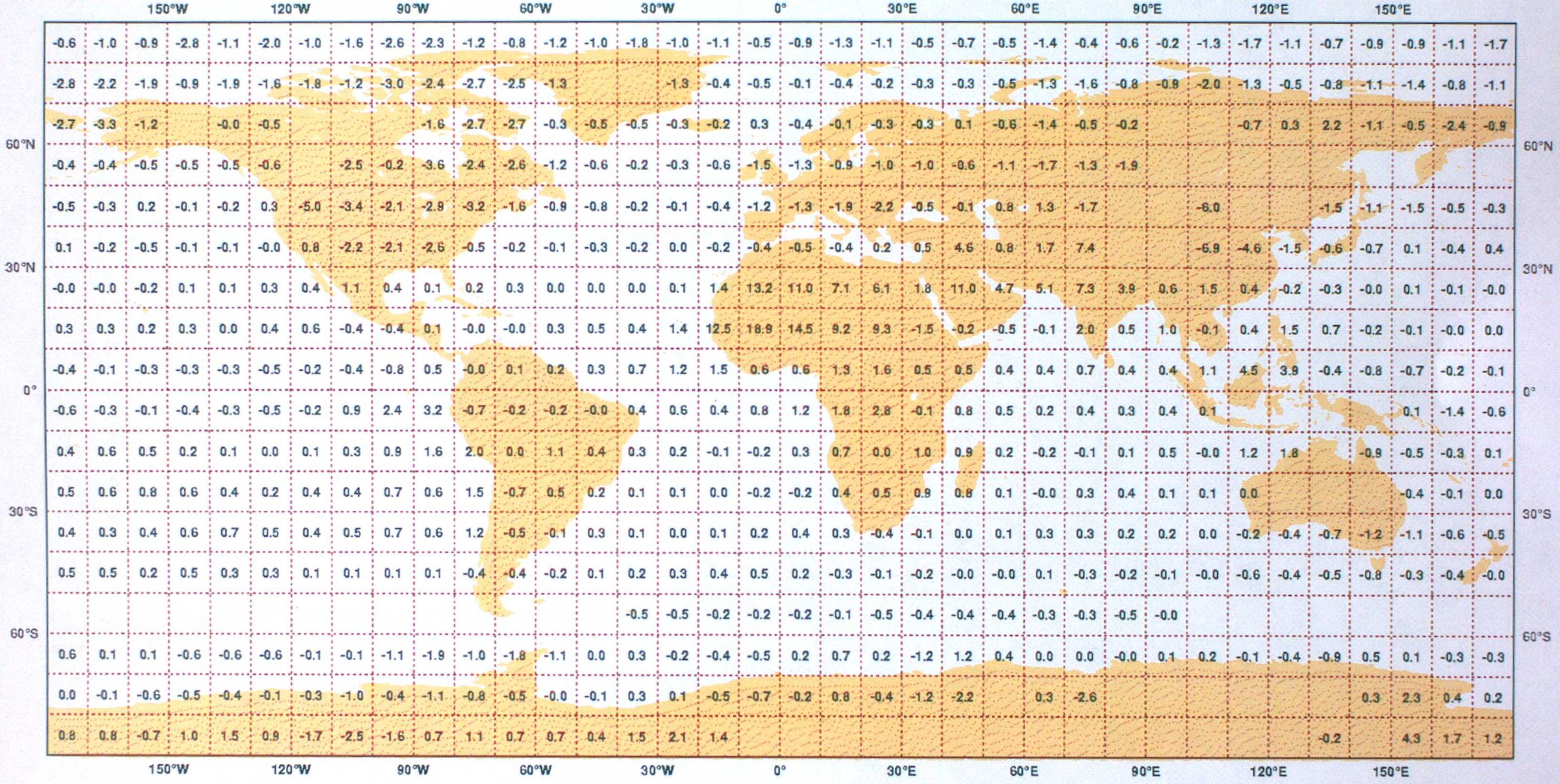
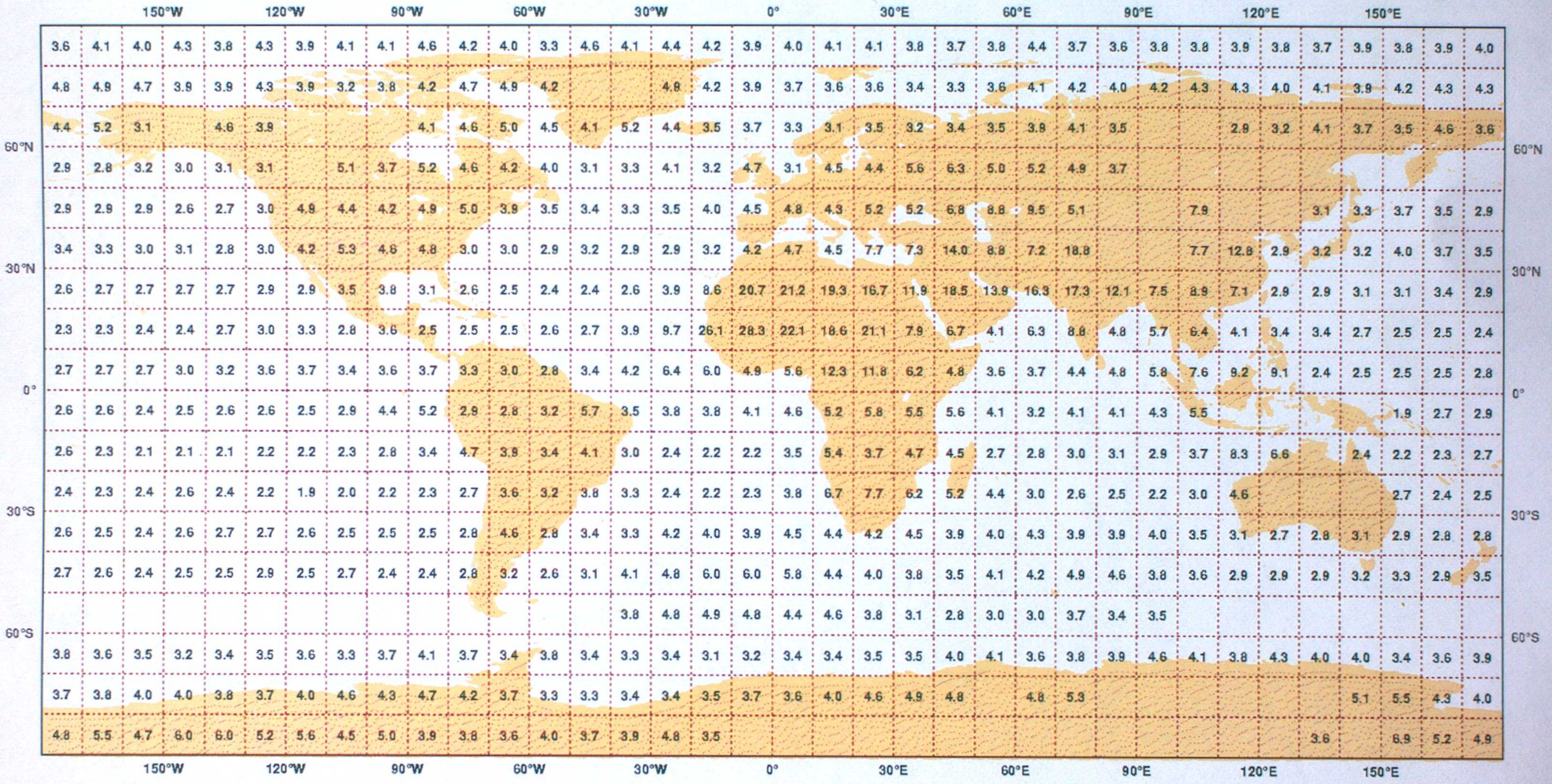

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
10.0m/s

Figure 13. SATOB 701 - 1000 hPa mean O-B speed differences (ms-1). DECEMBER 2005
All observations
Values are plotted where greater than 10 obs are present



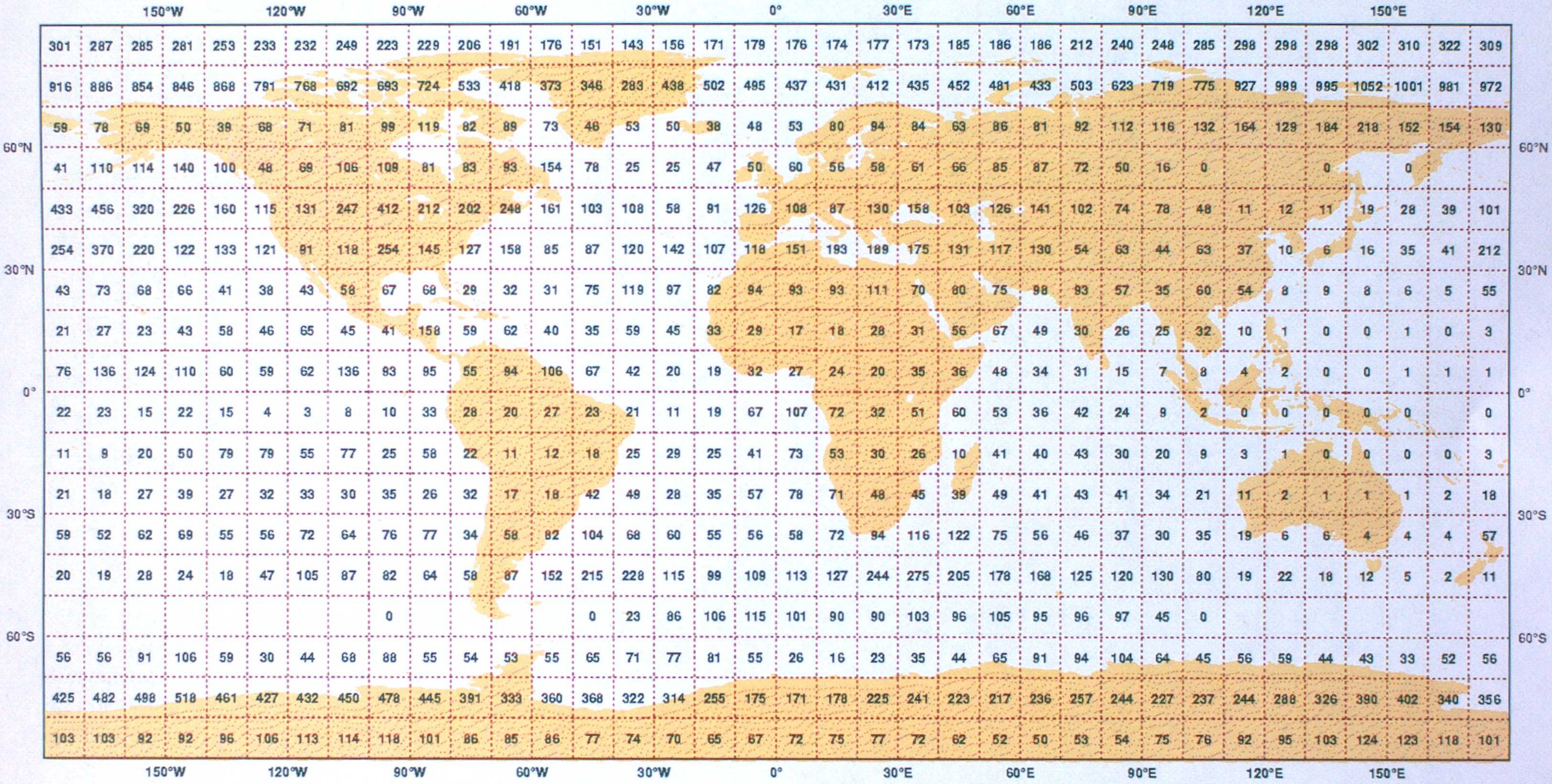
-0.6	-1.0	-0.9	-2.8	-1.1	-2.0	-1.0	-1.6	-2.6	-2.3	-1.2	-0.8	-1.2	-1.0	-1.8	-1.0	-1.1	-0.5	-0.9	-1.3	-1.1	-0.5	-0.7	-0.5	-1.4	-0.4	-0.6	-0.2	-1.3	-1.7	-1.1	-0.7	-0.9	-0.9	-1.1	-1.7
-2.8	-2.2	-1.9	-0.9	-1.9	-1.6	-1.8	-1.2	-3.0	-2.4	-2.7	-2.5	-1.3			-1.3	-0.4	-0.5	-0.1	-0.4	-0.2	-0.3	-0.3	-0.5	-1.3	-1.6	-0.8	-0.9	-2.0	-1.3	-0.5	-0.8	-1.1	-1.4	-0.8	-1.1
-2.7	-3.3	-1.2		-0.0	-0.5				-1.6	-2.7	-2.7	-0.3	-0.5	-0.5	-0.3	-0.2	0.3	-0.4	-0.1	-0.3	-0.3	0.1	-0.6	-1.4	-0.5	-0.2			-0.7	0.3	2.2	-1.1	-0.5	-2.4	-0.9
-0.4	-0.4	-0.5	-0.5	-0.5	-0.6		-2.5	-0.2	-3.6	-2.4	-2.6	-1.2	-0.6	-0.2	-0.3	-0.6	-1.5	-1.3	-0.9	-1.0	-1.0	-0.6	-1.1	-1.7	-1.3	-1.9									
-0.5	-0.3	0.2	-0.1	-0.2	0.3	-5.0	-3.4	-2.1	-2.9	-3.2	-1.6	-0.9	-0.8	-0.2	-0.1	-0.4	-1.2	-1.3	-1.9	-2.2	-0.5	-0.1	0.8	1.3	-1.7			-6.0			-1.5	-1.1	-1.5	-0.5	-0.3
0.1	-0.2	-0.5	-0.1	-0.1	-0.0	0.8	-2.2	-2.1	-2.6	-0.5	-0.2	-0.1	-0.3	-0.2	0.0	-0.2	-0.4	-0.5	-0.4	0.2	0.5	4.6	0.8	1.7	7.4			-6.9	-4.6	-1.5	-0.6	-0.7	0.1	-0.4	0.4
-0.0	-0.0	-0.2	0.1	0.1	0.3	0.4	1.1	0.4	0.1	0.2	0.3	0.0	0.0	0.0	0.1	1.4	13.2	11.0	7.1	6.1	1.8	11.0	4.7	5.1	7.3	3.9	0.6	1.5	0.4	-0.2	-0.3	-0.0	0.1	-0.1	-0.0
0.3	0.3	0.2	0.3	0.0	0.4	0.6	-0.4	-0.4	0.1	-0.0	-0.0	0.3	0.5	0.4	1.4	12.5	18.9	14.5	9.2	9.3	-1.5	-0.2	-0.5	-0.1	2.0	0.5	1.0	-0.1	0.4	1.5	0.7	-0.2	-0.1	-0.0	0.0
-0.4	-0.1	-0.3	-0.3	-0.3	-0.5	-0.2	-0.4	-0.8	0.5	-0.0	0.1	0.2	0.3	0.7	1.2	1.5	0.6	0.6	1.3	1.6	0.5	0.5	0.4	0.4	0.7	0.4	0.4	1.1	4.5	3.9	-0.4	-0.8	-0.7	-0.2	-0.1
-0.6	-0.3	-0.1	-0.4	-0.3	-0.5	-0.2	0.9	2.4	3.2	-0.7	-0.2	-0.2	-0.0	0.4	0.6	0.4	0.8	1.2	1.8	2.8	-0.1	0.8	0.5	0.2	0.4	0.3	0.4	0.1					0.1	-1.4	-0.6
0.4	0.6	0.5	0.2	0.1	0.0	0.1	0.3	0.9	1.6	2.0	0.0	1.1	0.4	0.3	0.2	-0.1	-0.2	0.3	0.7	0.0	1.0	0.9	0.2	-0.2	-0.1	0.1	0.5	-0.0	1.2	1.8		-0.9	-0.5	-0.3	0.1
0.5	0.6	0.8	0.6	0.4	0.2	0.4	0.4	0.7	0.6	1.5	-0.7	0.5	0.2	0.1	0.1	0.0	-0.2	-0.2	0.4	0.5	0.9	0.8	0.1	-0.0	0.3	0.4	0.1	0.1	0.0				-0.4	-0.1	0.0
0.4	0.3	0.4	0.6	0.7	0.5	0.4	0.5	0.7	0.6	1.2	-0.5	-0.1	0.3	0.1	0.0	0.1	0.2	0.4	0.3	-0.4	-0.1	0.0	0.1	0.3	0.3	0.2	0.2	0.0	-0.2	-0.4	-0.7	-1.2	-1.1	-0.6	-0.5
0.5	0.5	0.2	0.5	0.3	0.3	0.1	0.1	0.1	0.1	-0.4	-0.4	-0.2	0.1	0.2	0.3	0.4	0.5	0.2	-0.3	-0.1	-0.2	-0.0	-0.0	0.1	-0.3	-0.2	-0.1	-0.0	-0.6	-0.4	-0.5	-0.8	-0.3	-0.4	-0.0
														-0.5	-0.5	-0.2	-0.2	-0.2	-0.1	-0.5	-0.4	-0.4	-0.4	-0.3	-0.3	-0.5	-0.0								
0.6	0.1	0.1	-0.6	-0.6	-0.6	-0.1	-0.1	-1.1	-1.9	-1.0	-1.8	-1.1	0.0	0.3	-0.2	-0.4	-0.5	0.2	0.7	0.2	-1.2	1.2	0.4	0.0	0.0	-0.0	0.1	0.2	-0.1	-0.4	-0.9	0.5	0.1	-0.3	-0.3
0.0	-0.1	-0.6	-0.5	-0.4	-0.1	-0.3	-1.0	-0.4	-1.1	-0.8	-0.5	-0.0	-0.1	0.3	0.1	-0.5	-0.7	-0.2	0.8	-0.4	-1.2	-2.2		0.3	-2.6							0.3	2.3	0.4	0.2
0.8	0.8	-0.7	1.0	1.5	0.9	-1.7	-2.5	-1.6	0.7	1.1	0.7	0.7	0.4	1.5	2.1	1.4															-0.2		4.3	1.7	1.2

Figure 14. SATOB 701 - 1000 hPa mean RMS O-B vector differences (ms-1). DECEMBER 2005
All observations
Values are plotted where greater than 10 obs are present



3.6	4.1	4.0	4.3	3.8	4.3	3.9	4.1	4.1	4.6	4.2	4.0	3.3	4.6	4.1	4.4	4.2	3.9	4.0	4.1	4.1	3.8	3.7	3.8	4.4	3.7	3.6	3.8	3.8	3.9	3.8	3.7	3.9	3.8	3.9	4.0
4.8	4.9	4.7	3.9	3.9	4.3	3.9	3.2	3.8	4.2	4.7	4.9	4.2			4.8	4.2	3.9	3.7	3.6	3.6	3.4	3.3	3.6	4.1	4.2	4.0	4.2	4.3	4.3	4.0	4.1	3.9	4.2	4.3	4.3
4.4	5.2	3.1		4.6	3.9				4.1	4.6	5.0	4.5	4.1	5.2	4.4	3.5	3.7	3.3	3.1	3.5	3.2	3.4	3.5	3.8	4.1	3.5			2.8	3.2	4.1	3.7	3.5	4.6	3.6
2.9	2.8	3.2	3.0	3.1	3.1		5.1	3.7	5.2	4.6	4.2	4.0	3.1	3.3	4.1	3.2	4.7	3.1	4.5	4.4	5.6	6.3	5.0	5.2	4.9	3.7									
2.9	2.9	2.9	2.6	2.7	3.0	4.9	4.4	4.2	4.9	5.0	3.9	3.5	3.4	3.3	3.5	4.0	4.5	4.8	4.3	5.2	5.2	6.8	8.8	9.5	5.1			7.9			3.1	3.3	3.7	3.5	2.9
3.4	3.3	3.0	3.1	2.8	3.0	4.2	5.3	4.6	4.8	3.0	3.0	2.9	3.2	2.9	2.9	3.2	4.2	4.7	4.5	7.7	7.3	14.0	8.8	7.2	18.8			7.7	12.8	2.9	3.2	3.2	4.0	3.7	3.5
2.6	2.7	2.7	2.7	2.7	2.9	2.9	3.5	3.8	3.1	2.6	2.5	2.4	2.4	2.6	3.9	8.6	20.7	21.2	19.3	16.7	11.9	18.5	13.9	16.3	17.3	12.1	7.5	8.9	7.1	2.9	2.9	3.1	3.1	3.4	2.9
2.3	2.3	2.4	2.4	2.7	3.0	3.3	2.8	3.6	2.5	2.5	2.5	2.6	2.7	3.9	9.7	26.1	28.3	22.1	18.6	21.1	7.9	6.7	4.1	6.3	8.8	4.8	5.7	6.4	4.1	3.4	3.4	2.7	2.5	2.5	2.4
2.7	2.7	2.7	3.0	3.2	3.6	3.7	3.4	3.6	3.7	3.3	3.0	2.8	3.4	4.2	6.4	6.0	4.9	5.6	12.3	11.8	6.2	4.8	3.6	3.7	4.4	4.8	5.8	7.6	9.2	9.1	2.4	2.5	2.5	2.5	2.8
2.6	2.6	2.4	2.5	2.6	2.6	2.5	2.9	4.4	5.2	2.9	2.8	3.2	5.7	3.5	3.8	3.8	4.1	4.6	5.2	5.8	5.5	5.6	4.1	3.2	4.1	4.1	4.3	5.5					1.9	2.7	2.9
2.6	2.3	2.1	2.1	2.1	2.2	2.2	2.3	2.8	3.4	4.7	3.9	3.4	4.1	3.0	2.4	2.2	2.2	3.5	5.4	3.7	4.7	4.5	2.7	2.8	3.0	3.1	2.9	3.7	8.3	6.6		2.4	2.2	2.3	2.7
2.4	2.3	2.4	2.6	2.4	2.2	1.9	2.0	2.2	2.3	2.7	3.6	3.2	3.8	3.3	2.4	2.2	2.3	3.8	6.7	7.7	6.2	5.2	4.4	3.0	2.6	2.5	2.2	3.0	4.6				2.7	2.4	2.5
2.6	2.5	2.4	2.6	2.7	2.7	2.6	2.5	2.5	2.5	2.8	4.6	2.8	3.4	3.3	4.2	4.0	3.9	4.5	4.4	4.2	4.5	3.9	4.0	4.3	3.9	3.9	4.0	3.5	3.1	2.7	2.8	3.1	2.9	2.8	2.8
2.7	2.6	2.4	2.5	2.5	2.9	2.5	2.7	2.4	2.4	2.8	3.2	2.6	3.1	4.1	4.8	6.0	6.0	5.8	4.4	4.0	3.8	3.5	4.1	4.2	4.9	4.6	3.8	3.6	2.9	2.9	2.9	3.2	3.3	2.9	3.5
														3.8	4.8	4.9	4.8	4.4	4.6	3.8	3.1	2.8	3.0	3.0	3.7	3.4	3.5								
3.8	3.6	3.5	3.2	3.4	3.5	3.6	3.3	3.7	4.1	3.7	3.4	3.8	3.4	3.3	3.4	3.1	3.2	3.4	3.4	3.5	3.5	4.0	4.1	3.6	3.8	3.9	4.6	4.1	3.8	4.3	4.0	4.0	3.4	3.6	3.9
3.7	3.8	4.0	4.0	3.8	3.7	4.0	4.6	4.3	4.7	4.2	3.7	3.3	3.3	3.4	3.4	3.5	3.7	3.6	4.0	4.6	4.9	4.8		4.8	5.3							5.1	5.5	4.3	4.0
4.8	5.5	4.7	6.0	6.0	5.2	5.6	4.5	5.0	3.9	3.8	3.6	4.0	3.7	3.9	4.8	3.5															3.6		6.9	5.2	4.9

Figure 15. SATOB 401 - 700 hPa mean daily count. DECEMBER 2005
Global average number of observations in 24 hours = 79350



301	287	285	281	253	233	232	249	223	229	206	191	176	151	143	156	171	179	176	174	177	173	185	186	186	212	240	248	285	298	298	298	302	310	322	309
916	886	854	846	868	791	768	692	693	724	533	418	373	346	283	438	502	495	437	431	412	435	452	481	433	503	623	719	775	927	999	995	1052	1001	981	972
59	78	69	50	39	68	71	81	99	119	82	89	73	46	53	50	38	48	53	80	94	84	63	86	81	92	112	116	132	164	129	184	218	152	154	130
41	110	114	140	100	48	69	106	109	81	83	93	154	78	25	25	47	50	60	56	58	61	66	85	87	72	50	16	0			0		0		
433	456	320	226	160	115	131	247	412	212	202	248	161	103	108	58	91	126	108	87	130	158	103	126	141	102	74	78	48	11	12	11	19	28	39	101
254	370	220	122	133	121	91	118	254	145	127	158	85	87	120	142	107	118	151	193	189	175	131	117	130	54	63	44	63	37	10	6	16	35	41	212
43	73	68	66	41	38	43	58	67	68	29	32	31	75	119	97	82	94	93	93	111	70	80	75	98	93	57	35	60	54	8	9	8	6	5	55
21	27	23	43	58	46	65	45	41	158	59	62	40	35	59	45	33	29	17	18	28	31	56	67	49	30	26	25	32	10	1	0	0	1	0	3
76	136	124	110	60	59	62	136	93	95	55	94	106	67	42	20	19	32	27	24	20	35	36	48	34	31	15	7	8	4	2	0	0	1	1	1
22	23	15	22	15	4	3	8	10	33	28	20	27	23	21	11	19	67	107	72	32	51	60	53	36	42	24	9	2	0	0	0	0	0		0
11	9	20	50	79	79	55	77	25	58	22	11	12	18	25	29	25	41	73	53	30	26	10	41	40	43	30	20	9	3	1	0	0	0	0	3
21	18	27	39	27	32	33	30	35	26	32	17	18	42	49	28	35	57	78	71	48	45	39	49	41	43	41	34	21	11	2	1	1	1	2	18
59	52	62	69	55	56	72	64	76	77	34	58	82	104	68	60	55	56	58	72	94	116	122	75	56	46	37	30	35	19	6	6	4	4	4	57
20	19	28	24	18	47	105	87	82	64	58	87	152	215	228	115	99	109	113	127	244	275	205	178	168	125	120	130	80	19	22	18	12	5	2	11
								0					0	23	86	106	115	101	90	90	103	96	105	95	96	97	45	0							
56	56	91	106	59	30	44	68	88	55	54	53	55	65	71	77	81	55	26	16	23	35	44	65	91	94	104	64	45	56	59	44	43	33	52	56
425	482	498	518	461	427	432	450	478	445	391	333	360	368	322	314	255	175	171	178	225	241	223	217	236	257	244	227	237	244	288	326	390	402	340	356
103	103	92	92	96	106	113	114	118	101	86	85	86	77	74	70	65	67	72	75	77	72	62	52	50	53	54	75	76	92	95	103	124	123	118	101

Figure 16. SATOB 401 - 700 hPa vector mean wind. DECEMBER 2005
All observations
Arrows are plotted where greater than 10 obs are present

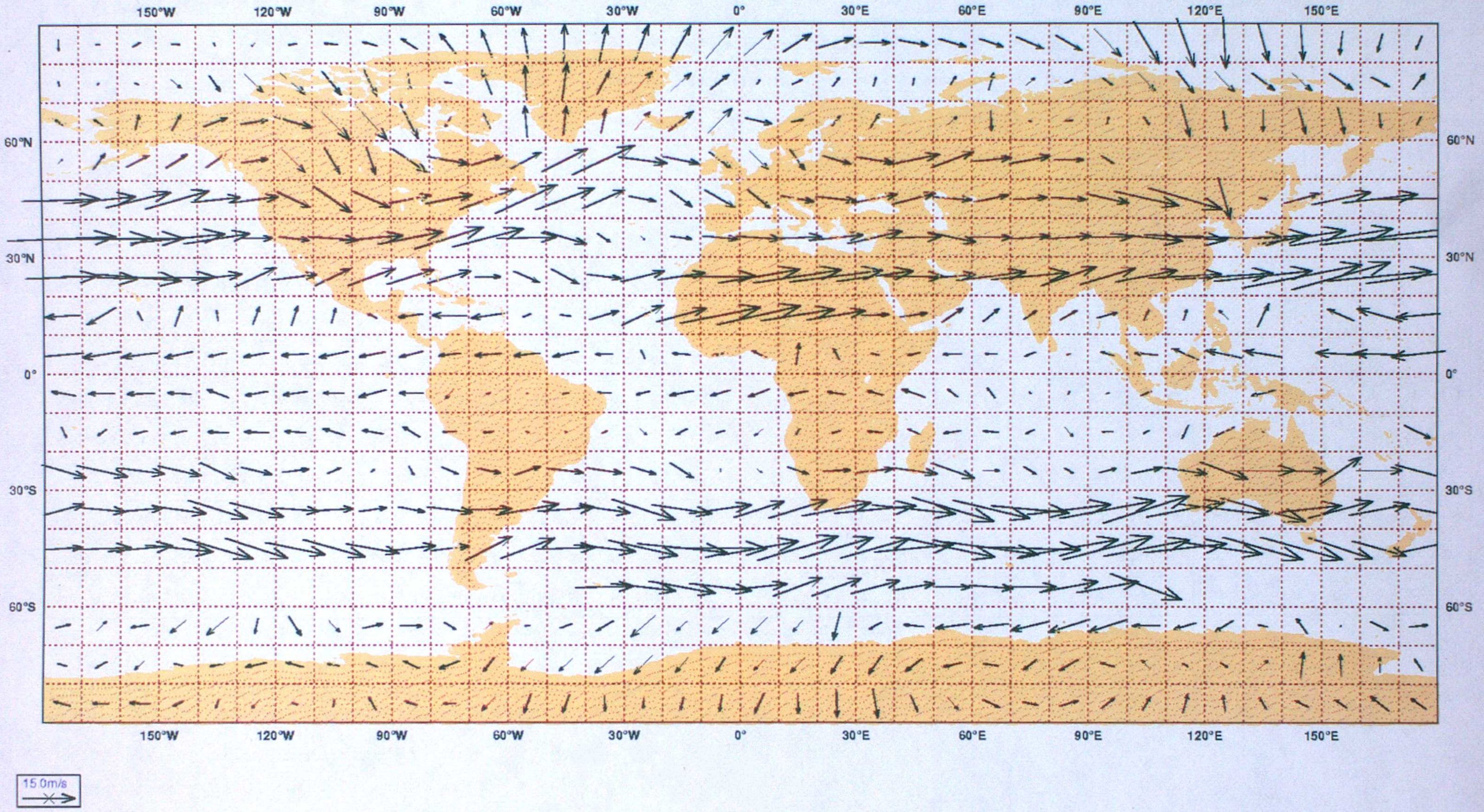

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 17. SATOB 401 - 700 hPa mean vector wind differences. DECEMBER 2005
All observations
Arrows are plotted where greater than 10 obs are present

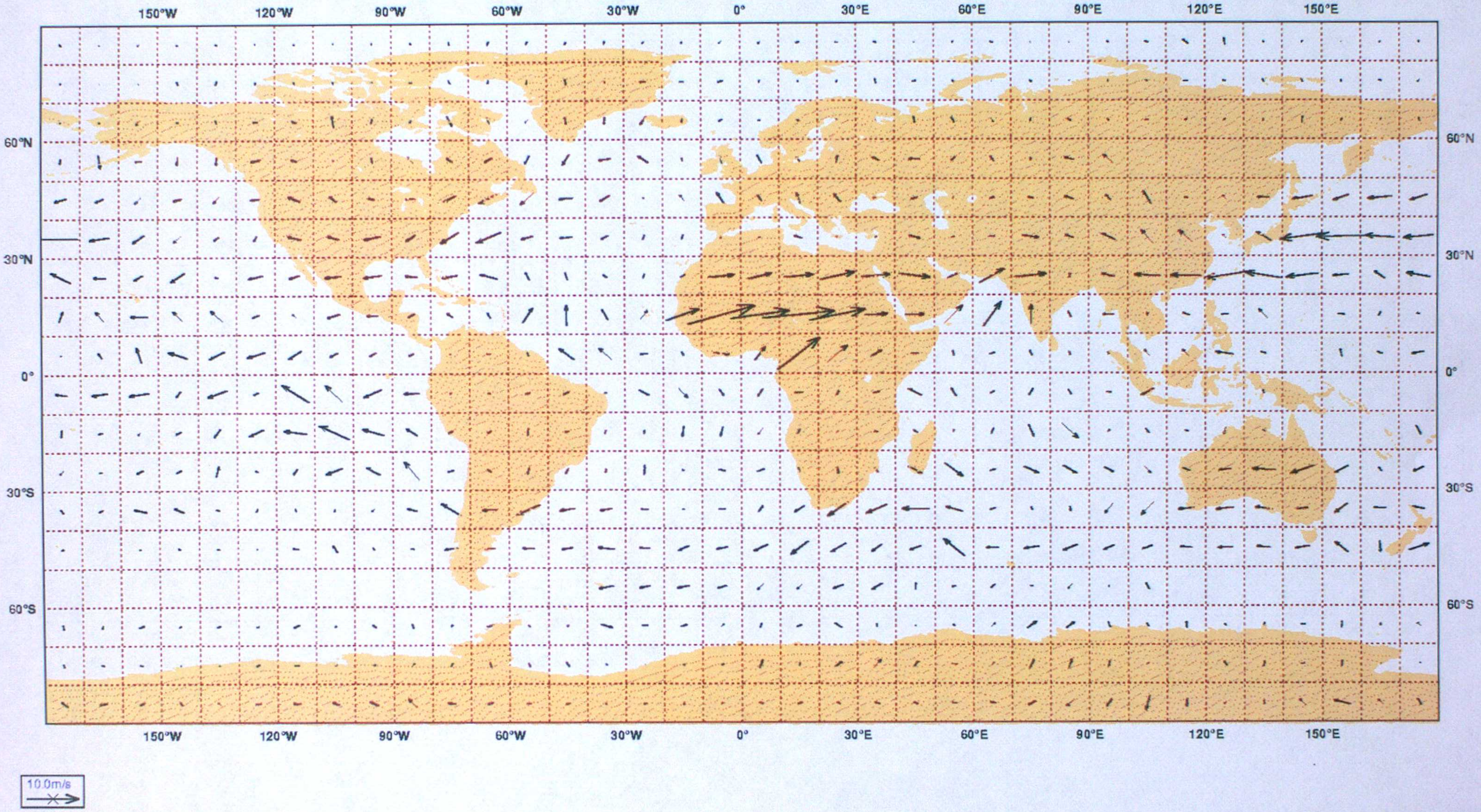
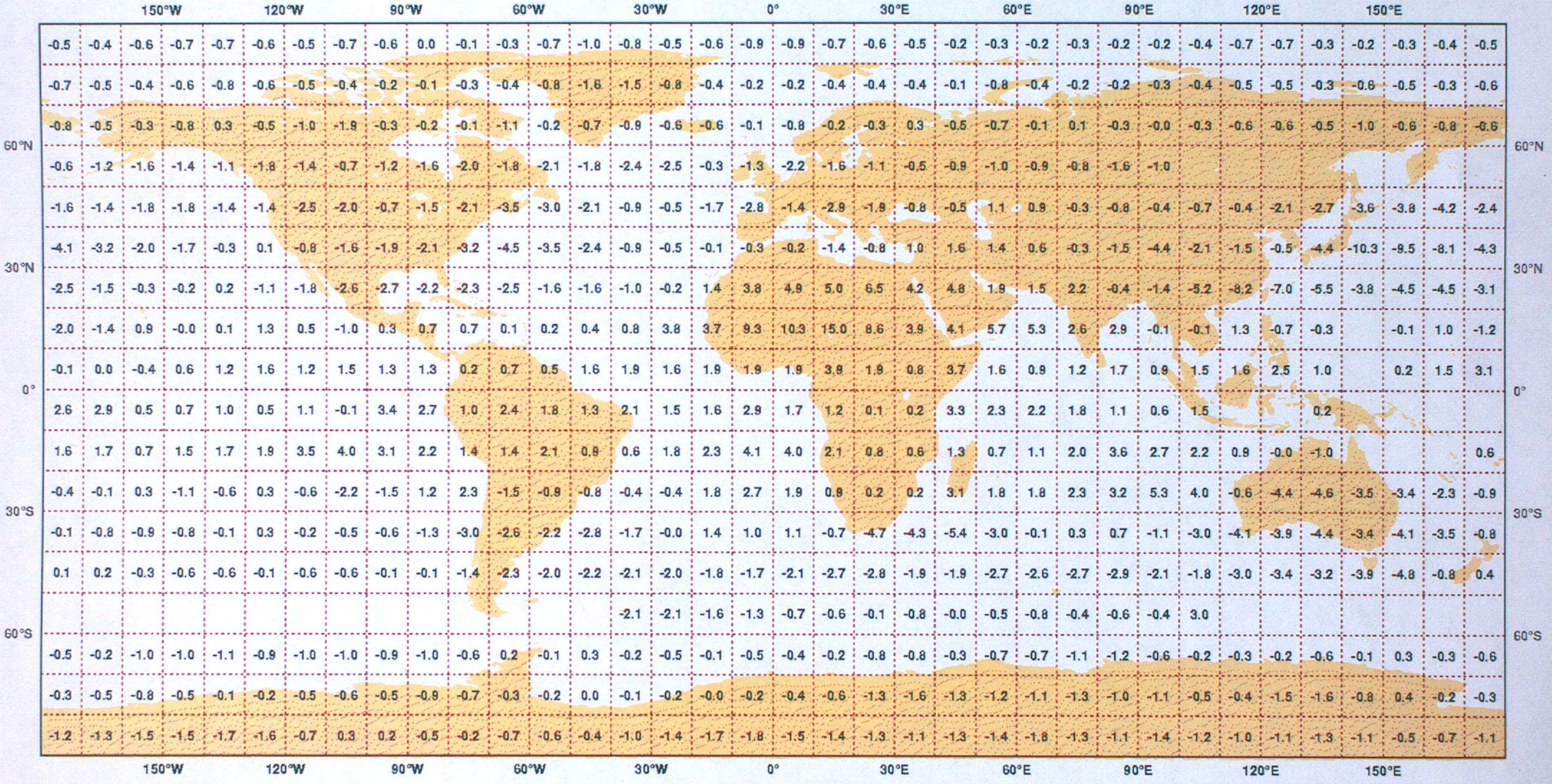

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
10.0m/s

Figure 18. SATOB 401 - 700 hPa mean O-B speed differences (ms-1). DECEMBER 2005
All observations
Values are plotted where greater than 10 obs are present



-0.5	-0.4	-0.6	-0.7	-0.7	-0.6	-0.5	-0.7	-0.6	0.0	-0.1	-0.3	-0.7	-1.0	-0.8	-0.5	-0.6	-0.9	-0.9	-0.7	-0.6	-0.5	-0.2	-0.3	-0.2	-0.3	-0.2	-0.2	-0.4	-0.7	-0.7	-0.3	-0.2	-0.3	-0.4	-0.5
-0.7	-0.5	-0.4	-0.6	-0.8	-0.6	-0.5	-0.4	-0.2	-0.1	-0.3	-0.4	-0.8	-1.6	-1.5	-0.8	-0.4	-0.2	-0.2	-0.4	-0.4	-0.4	-0.1	-0.8	-0.4	-0.2	-0.2	-0.3	-0.4	-0.5	-0.5	-0.3	-0.6	-0.5	-0.3	-0.6
-0.8	-0.5	-0.3	-0.8	0.3	-0.5	-1.0	-1.9	-0.3	-0.2	-0.1	-1.1	-0.2	-0.7	-0.9	-0.6	-0.6	-0.1	-0.8	-0.2	-0.3	0.3	-0.5	-0.7	-0.1	0.1	-0.3	-0.0	-0.3	-0.6	-0.6	-0.5	-1.0	-0.6	-0.8	-0.6
-0.6	-1.2	-1.6	-1.4	-1.1	-1.8	-1.4	-0.7	-1.2	-1.6	-2.0	-1.8	-2.1	-1.8	-2.4	-2.5	-0.3	-1.3	-2.2	-1.6	-1.1	-0.5	-0.9	-1.0	-0.9	-0.8	-1.6	-1.0								
-1.6	-1.4	-1.8	-1.8	-1.4	-1.4	-2.5	-2.0	-0.7	-1.5	-2.1	-3.5	-3.0	-2.1	-0.9	-0.5	-1.7	-2.8	-1.4	-2.9	-1.9	-0.8	-0.5	1.1	0.9	-0.3	-0.8	-0.4	-0.7	-0.4	-2.1	-2.7	-3.6	-3.8	-4.2	-2.4
-4.1	-3.2	-2.0	-1.7	-0.3	0.1	-0.8	-1.6	-1.9	-2.1	-3.2	-4.5	-3.5	-2.4	-0.9	-0.5	-0.1	-0.3	-0.2	-1.4	-0.8	1.0	1.6	1.4	0.6	-0.3	-1.5	-4.4	-2.1	-1.5	-0.5	-4.4	-10.3	-9.5	-8.1	-4.3
-2.5	-1.5	-0.3	-0.2	0.2	-1.1	-1.8	-2.6	-2.7	-2.2	-2.3	-2.5	-1.6	-1.6	-1.0	-0.2	1.4	3.8	4.9	5.0	6.5	4.2	4.8	1.9	1.5	2.2	-0.4	-1.4	-5.2	-8.2	-7.0	-5.5	-3.8	-4.5	-4.5	-3.1
-2.0	-1.4	0.9	-0.0	0.1	1.3	0.5	-1.0	0.3	0.7	0.7	0.1	0.2	0.4	0.8	3.8	3.7	9.3	10.3	15.0	8.6	3.9	4.1	5.7	5.3	2.6	2.9	-0.1	-0.1	1.3	-0.7	-0.3		-0.1	1.0	-1.2
-0.1	0.0	-0.4	0.6	1.2	1.6	1.2	1.5	1.3	1.3	0.2	0.7	0.5	1.6	1.9	1.6	1.9	1.9	1.9	3.9	1.9	0.8	3.7	1.6	0.9	1.2	1.7	0.9	1.5	1.6	2.5	1.0		0.2	1.5	3.1
2.6	2.9	0.5	0.7	1.0	0.5	1.1	-0.1	3.4	2.7	1.0	2.4	1.8	1.3	2.1	1.5	1.6	2.9	1.7	1.2	0.1	0.2	3.3	2.3	2.2	1.8	1.1	0.6	1.5			0.2				
1.6	1.7	0.7	1.5	1.7	1.9	3.5	4.0	3.1	2.2	1.4	1.4	2.1	0.9	0.6	1.8	2.3	4.1	4.0	2.1	0.8	0.6	1.3	0.7	1.1	2.0	3.6	2.7	2.2	0.9	-0.0	-1.0				0.6
-0.4	-0.1	0.3	-1.1	-0.6	0.3	-0.6	-2.2	-1.5	1.2	2.3	-1.5	-0.9	-0.8	-0.4	-0.4	1.8	2.7	1.9	0.9	0.2	0.2	3.1	1.8	1.8	2.3	3.2	5.3	4.0	-0.6	-4.4	-4.6	-3.5	-3.4	-2.3	-0.9
-0.1	-0.8	-0.9	-0.8	-0.1	0.3	-0.2	-0.5	-0.6	-1.3	-3.0	-2.6	-2.2	-2.8	-1.7	-0.0	1.4	1.0	1.1	-0.7	-4.7	-4.3	-5.4	-3.0	-0.1	0.3	0.7	-1.1	-3.0	-4.1	-3.9	-4.4	-3.4	-4.1	-3.5	-0.8
0.1	0.2	-0.3	-0.6	-0.6	-0.1	-0.6	-0.6	-0.1	-0.1	-1.4	-2.3	-2.0	-2.2	-2.1	-2.0	-1.8	-1.7	-2.1	-2.7	-2.8	-1.9	-1.9	-2.7	-2.6	-2.7	-2.9	-2.1	-1.8	-3.0	-3.4	-3.2	-3.9	-4.8	-0.8	0.4
														-2.1	-2.1	-1.6	-1.3	-0.7	-0.6	-0.1	-0.8	-0.0	-0.5	-0.8	-0.4	-0.6	-0.4	3.0							
-0.5	-0.2	-1.0	-1.0	-1.1	-0.9	-1.0	-1.0	-0.9	-1.0	-0.6	0.2	-0.1	0.3	-0.2	-0.5	-0.1	-0.5	-0.4	-0.2	-0.8	-0.8	-0.3	-0.7	-0.7	-1.1	-1.2	-0.6	-0.2	-0.3	-0.2	-0.6	-0.1	0.3	-0.3	-0.6
-0.3	-0.5	-0.8	-0.5	-0.1	-0.2	-0.5	-0.6	-0.5	-0.9	-0.7	-0.3	-0.2	0.0	-0.1	-0.2	-0.0	-0.2	-0.4	-0.6	-1.3	-1.6	-1.3	-1.2	-1.1	-1.3	-1.0	-1.1	-0.5	-0.4	-1.5	-1.6	-0.8	0.4	-0.2	-0.3
-1.2	-1.3	-1.5	-1.5	-1.7	-1.6	-0.7	0.3	0.2	-0.5	-0.2	-0.7	-0.6	-0.4	-1.0	-1.4	-1.7	-1.8	-1.5	-1.4	-1.3	-1.1	-1.3	-1.4	-1.8	-1.3	-1.1	-1.4	-1.2	-1.0	-1.1	-1.3	-1.1	-0.5	-0.7	-1.1

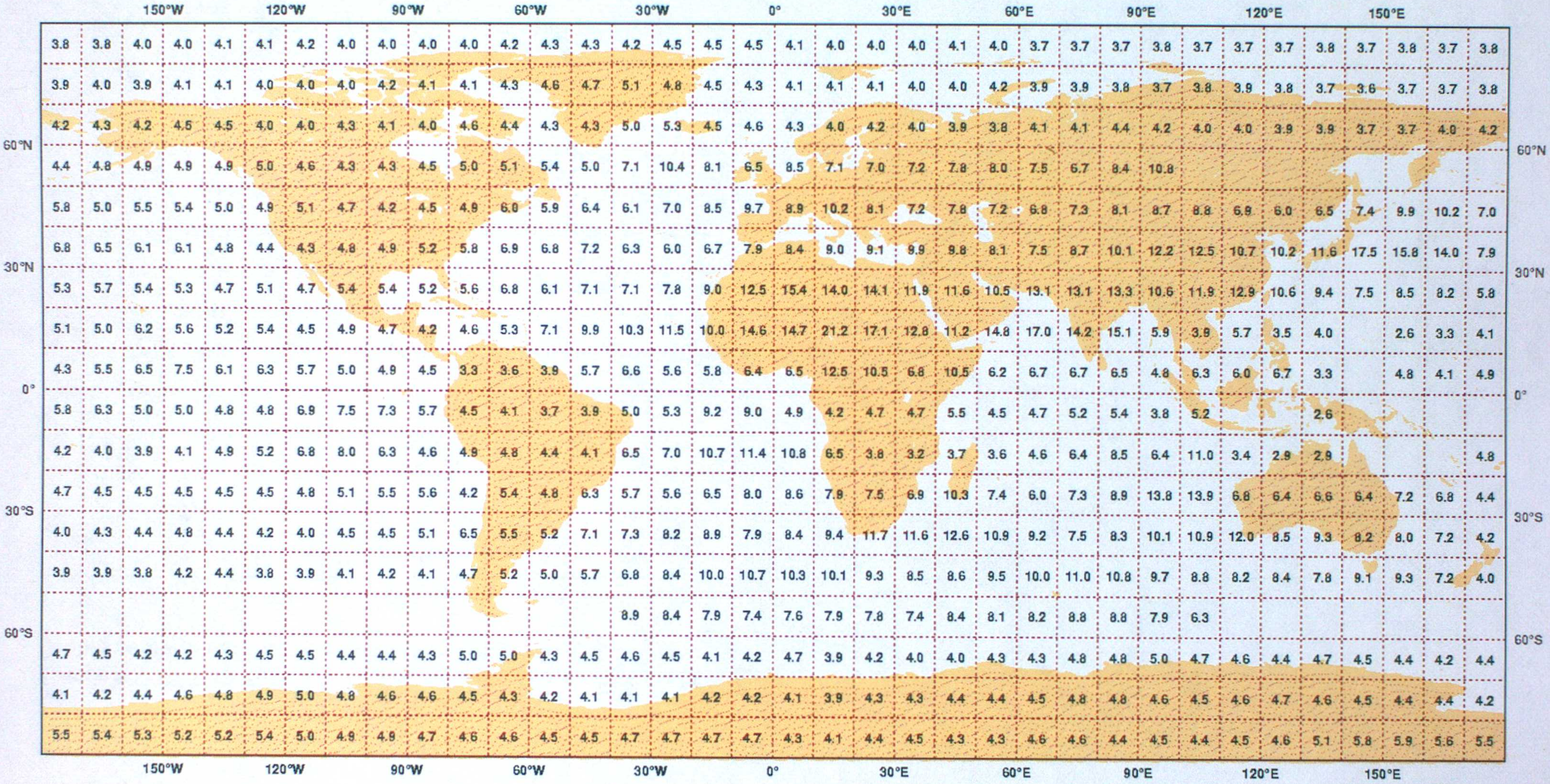
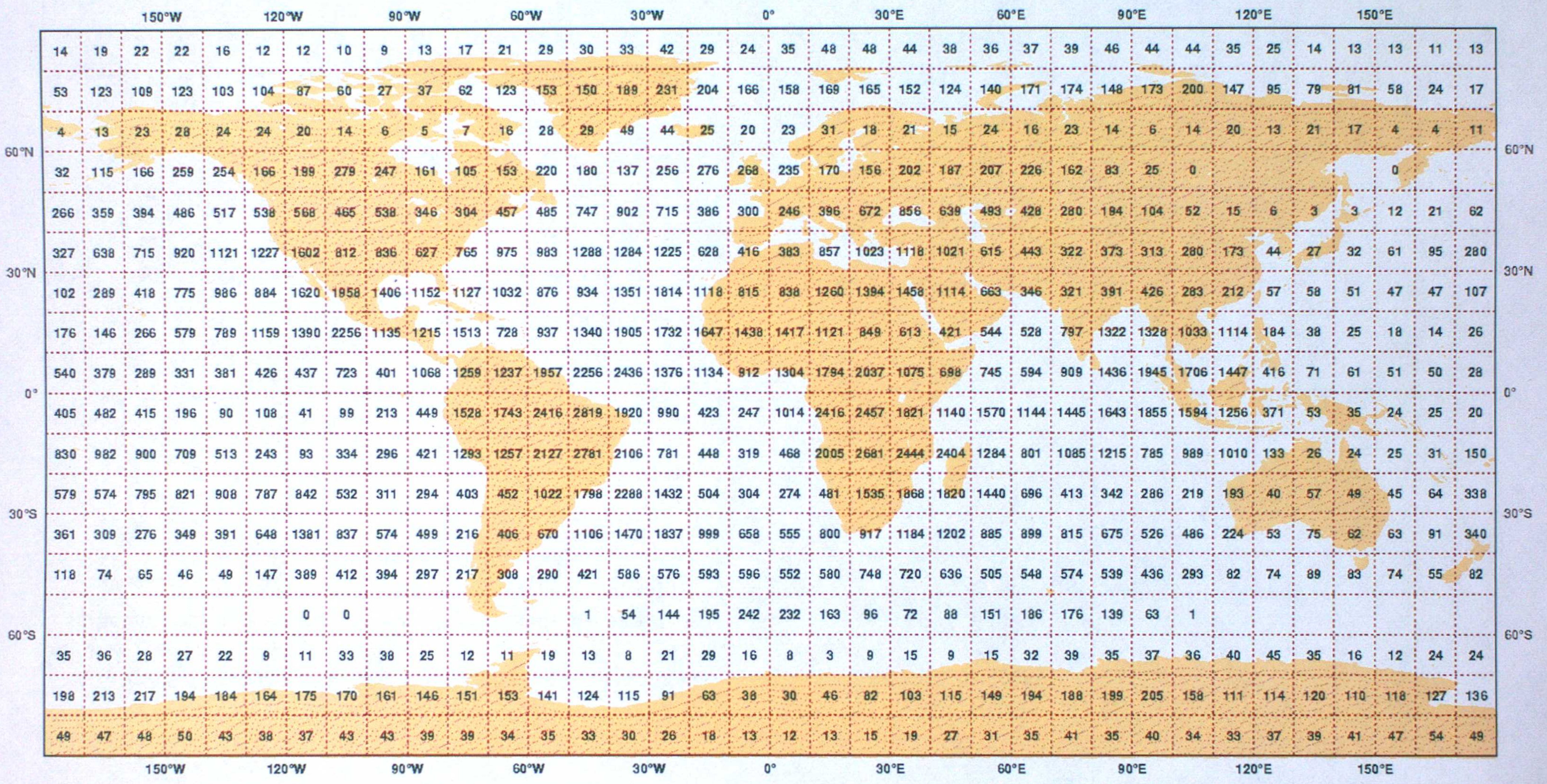


Figure 19. SATOB 401 - 700 hPa mean RMS O-B vector differences (ms-1). DECEMBER 2005
All observations
Values are plotted where greater than 10 obs are present

3.8	3.8	4.0	4.0	4.1	4.1	4.2	4.0	4.0	4.0	4.0	4.2	4.3	4.3	4.2	4.5	4.5	4.5	4.1	4.0	4.0	4.0	4.1	4.0	3.7	3.7	3.7	3.8	3.7	3.7	3.7	3.8	3.7	3.8	3.7	3.8
3.9	4.0	3.9	4.1	4.1	4.0	4.0	4.0	4.2	4.1	4.1	4.3	4.6	4.7	5.1	4.8	4.5	4.3	4.1	4.1	4.1	4.0	4.0	4.2	3.9	3.9	3.8	3.7	3.8	3.9	3.8	3.7	3.6	3.7	3.7	3.8
4.2	4.3	4.2	4.5	4.5	4.0	4.0	4.3	4.1	4.0	4.6	4.4	4.3	4.3	5.0	5.3	4.5	4.6	4.3	4.0	4.2	4.0	3.9	3.8	4.1	4.1	4.4	4.2	4.0	4.0	3.9	3.9	3.7	3.7	4.0	4.2
4.4	4.8	4.9	4.9	4.9	5.0	4.6	4.3	4.3	4.5	5.0	5.1	5.4	5.0	7.1	10.4	8.1	6.5	8.5	7.1	7.0	7.2	7.8	8.0	7.5	6.7	8.4	10.8								
5.8	5.0	5.5	5.4	5.0	4.9	5.1	4.7	4.2	4.5	4.9	6.0	5.9	6.4	6.1	7.0	8.5	9.7	8.9	10.2	8.1	7.2	7.8	7.2	6.8	7.3	8.1	8.7	8.8	6.9	6.0	6.5	7.4	9.9	10.2	7.0
6.8	6.5	6.1	6.1	4.8	4.4	4.3	4.8	4.9	5.2	5.8	6.9	6.8	7.2	6.3	6.0	6.7	7.9	8.4	9.0	9.1	9.9	9.8	8.1	7.5	8.7	10.1	12.2	12.5	10.7	10.2	11.6	17.5	15.8	14.0	7.9
5.3	5.7	5.4	5.3	4.7	5.1	4.7	5.4	5.4	5.2	5.6	6.8	6.1	7.1	7.1	7.8	9.0	12.5	15.4	14.0	14.1	11.9	11.6	10.5	13.1	13.1	13.3	10.6	11.9	12.9	10.6	9.4	7.5	8.5	8.2	5.8
5.1	5.0	6.2	5.6	5.2	5.4	4.5	4.9	4.7	4.2	4.6	5.3	7.1	9.9	10.3	11.5	10.0	14.6	14.7	21.2	17.1	12.8	11.2	14.8	17.0	14.2	15.1	5.9	3.9	5.7	3.5	4.0		2.6	3.3	4.1
4.3	5.5	6.5	7.5	6.1	6.3	5.7	5.0	4.9	4.5	3.3	3.6	3.9	5.7	6.6	5.6	5.8	6.4	6.5	12.5	10.5	6.8	10.5	6.2	6.7	6.7	6.5	4.8	6.3	6.0	6.7	3.3		4.8	4.1	4.9
5.8	6.3	5.0	5.0	4.8	4.8	6.9	7.5	7.3	5.7	4.5	4.1	3.7	3.9	5.0	5.3	9.2	9.0	4.9	4.2	4.7	4.7	5.5	4.5	4.7	5.2	5.4	3.8	5.2			2.6				
4.2	4.0	3.9	4.1	4.9	5.2	6.8	8.0	6.3	4.6	4.9	4.8	4.4	4.1	6.5	7.0	10.7	11.4	10.8	6.5	3.8	3.2	3.7	3.6	4.6	6.4	8.5	6.4	11.0	3.4	2.9	2.9				4.8
4.7	4.5	4.5	4.5	4.5	4.5	4.8	5.1	5.5	5.6	4.2	5.4	4.8	6.3	5.7	5.6	6.5	8.0	8.6	7.9	7.5	6.9	10.3	7.4	6.0	7.3	8.9	13.8	13.9	6.8	6.4	6.6	6.4	7.2	6.8	4.4
4.0	4.3	4.4	4.8	4.4	4.2	4.0	4.5	4.5	5.1	6.5	5.5	5.2	7.1	7.3	8.2	8.9	7.9	8.4	9.4	11.7	11.6	12.6	10.9	9.2	7.5	8.3	10.1	10.9	12.0	8.5	9.3	8.2	8.0	7.2	4.2
3.9	3.9	3.8	4.2	4.4	3.8	3.9	4.1	4.2	4.1	4.7	5.2	5.0	5.7	6.8	8.4	10.0	10.7	10.3	10.1	9.3	8.5	8.6	9.5	10.0	11.0	10.8	9.7	8.8	8.2	8.4	7.8	9.1	9.3	7.2	4.0
														8.9	8.4	7.9	7.4	7.6	7.9	7.8	7.4	8.4	8.1	8.2	8.8	8.8	7.9	6.3							
4.7	4.5	4.2	4.2	4.3	4.5	4.5	4.4	4.4	4.3	5.0	5.0	4.3	4.5	4.6	4.5	4.1	4.2	4.7	3.9	4.2	4.0	4.0	4.3	4.3	4.8	4.8	5.0	4.7	4.6	4.4	4.7	4.5	4.4	4.2	4.4
4.1	4.2	4.4	4.6	4.8	4.9	5.0	4.8	4.6	4.6	4.5	4.3	4.2	4.1	4.1	4.1	4.2	4.2	4.1	3.9	4.3	4.3	4.4	4.4	4.5	4.8	4.8	4.6	4.5	4.6	4.7	4.6	4.5	4.4	4.4	4.2
5.5	5.4	5.3	5.2	5.2	5.4	5.0	4.9	4.9	4.7	4.6	4.6	4.5	4.5	4.7	4.7	4.7	4.7	4.3	4.1	4.4	4.5	4.3	4.3	4.6	4.6	4.4	4.5	4.4	4.5	4.6	5.1	5.8	5.9	5.6	5.5

Figure 20. SATOB 101 - 400 hPa mean daily count. DECEMBER 2005
Global average number of observations in 24 hours = 279075



14	19	22	22	16	12	12	10	9	13	17	21	29	30	33	42	29	24	35	48	48	44	38	36	37	39	46	44	44	35	25	14	13	13	11	13
53	123	109	123	103	104	87	60	27	37	62	123	153	150	189	231	204	166	158	169	165	152	124	140	171	174	148	173	200	147	95	79	81	58	24	17
4	13	23	28	24	24	20	14	6	5	7	16	28	29	49	44	25	20	23	31	18	21	15	24	16	23	14	6	14	20	13	21	17	4	4	11
32	115	166	259	254	166	199	279	247	161	105	153	220	180	137	256	276	268	235	170	156	202	187	207	226	162	83	25	0					0		
266	359	394	486	517	538	568	465	538	346	304	457	485	747	902	715	386	300	246	396	672	856	639	493	428	280	194	104	52	15	6	3	3	12	21	62
327	638	715	920	1121	1227	1602	812	836	627	765	975	983	1288	1284	1225	628	416	383	857	1023	1118	1021	615	443	322	373	313	280	173	44	27	32	61	95	280
102	289	418	775	986	884	1620	1958	1406	1152	1127	1032	876	934	1351	1814	1118	815	838	1260	1394	1458	1114	663	346	321	391	426	283	212	57	58	51	47	47	107
176	146	266	579	789	1159	1390	2256	1135	1215	1513	728	937	1340	1905	1732	1647	1438	1417	1121	849	613	421	544	528	797	1322	1328	1033	1114	184	38	25	18	14	26
540	379	289	331	381	426	437	723	401	1068	1259	1237	1957	2256	2436	1376	1134	912	1304	1794	2037	1075	698	745	594	909	1436	1945	1706	1447	416	71	61	51	50	28
405	482	415	196	90	108	41	99	213	449	1528	1743	2416	2819	1920	990	423	247	1014	2416	2457	1821	1140	1570	1144	1445	1643	1855	1594	1256	371	53	35	24	25	20
830	982	900	709	513	243	93	334	296	421	1293	1257	2127	2781	2106	781	448	319	468	2005	2681	2444	2404	1284	801	1085	1215	785	989	1010	133	26	24	25	31	150
579	574	795	821	908	787	842	532	311	294	403	452	1022	1798	2288	1432	504	304	274	481	1535	1868	1820	1440	696	413	342	286	219	193	40	57	49	45	64	338
361	309	276	349	391	648	1381	837	574	499	216	406	670	1106	1470	1837	999	658	555	800	917	1184	1202	885	899	815	675	526	486	224	53	75	62	63	91	340
118	74	65	46	49	147	389	412	394	297	217	308	290	421	586	576	593	596	552	580	748	720	636	505	548	574	539	436	293	82	74	89	83	74	55	82
						0	0						1	54	144	195	242	232	163	96	72	88	151	186	176	139	63	1							
35	36	28	27	22	9	11	33	38	25	12	11	19	13	8	21	29	16	8	3	9	15	9	15	32	39	35	37	36	40	45	35	16	12	24	24
198	213	217	194	184	164	175	170	161	146	151	153	141	124	115	91	63	38	30	46	82	103	115	149	194	188	199	205	158	111	114	120	110	118	127	136
49	47	48	50	43	38	37	43	43	39	39	34	35	33	30	26	18	13	12	13	15	19	27	31	35	41	35	40	34	33	37	39	41	47	54	49

Figure 21. SATOB 101 - 400 hPa vector mean wind. DECEMBER 2005
All observations
Arrows are plotted where greater than 10 obs are present

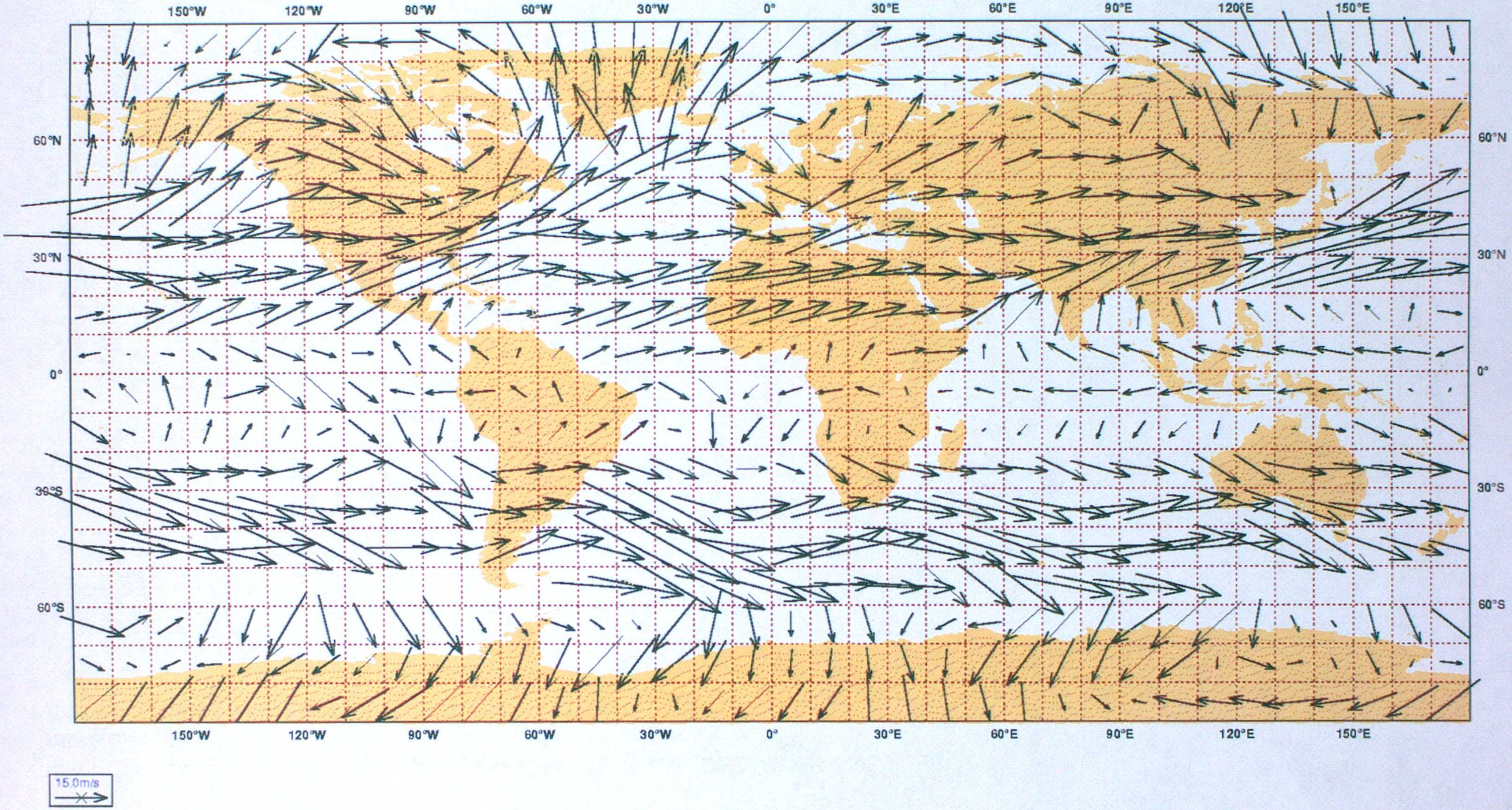

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 22. SATOB 101 - 400 hPa mean vector wind differences. DECEMBER 2005
All observations
Arrows are plotted where greater than 10 obs are present

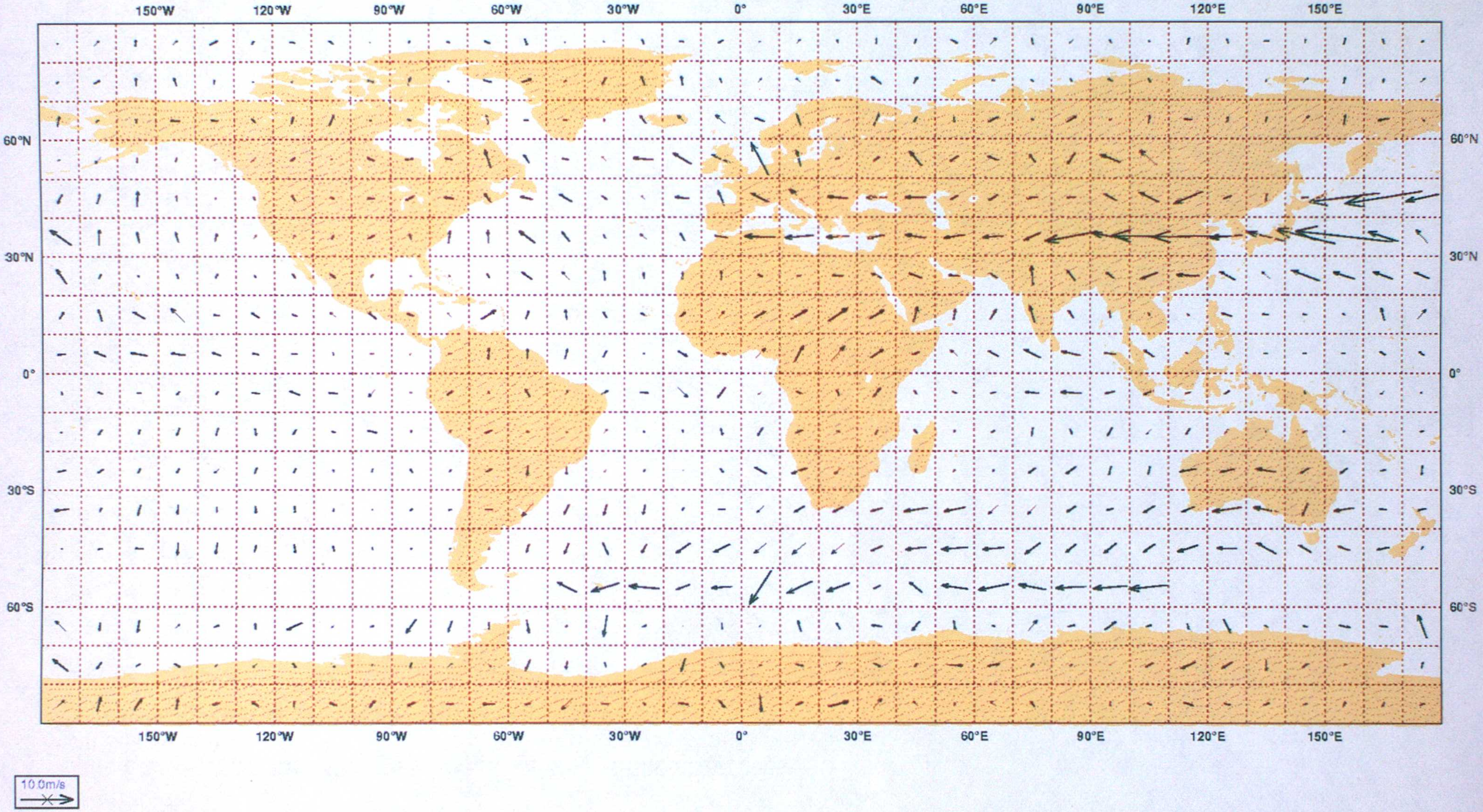
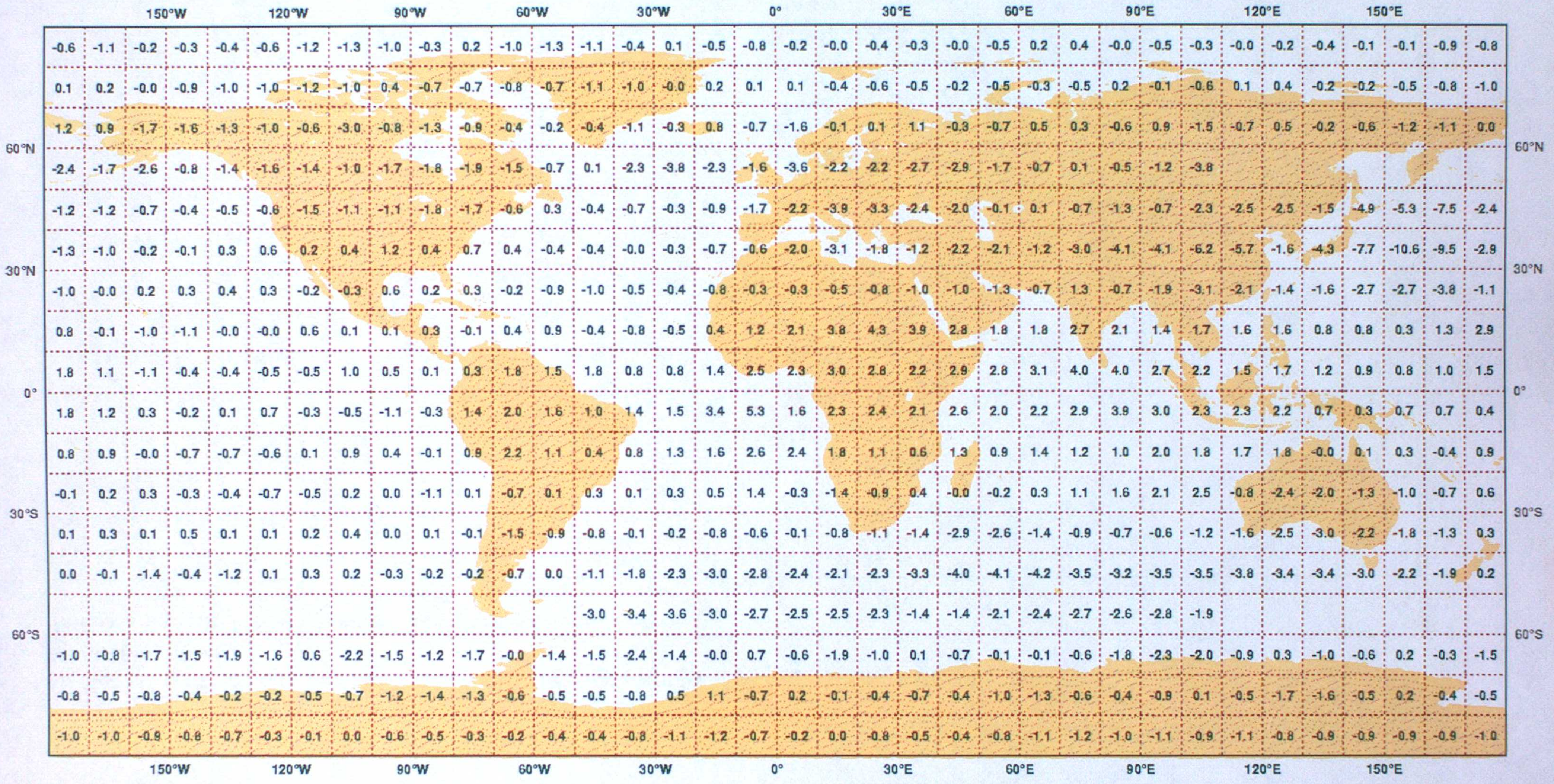

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
10.0m/s

Figure 23. SATOB 101 - 400 hPa mean O-B speed differences (ms-1). DECEMBER 2005

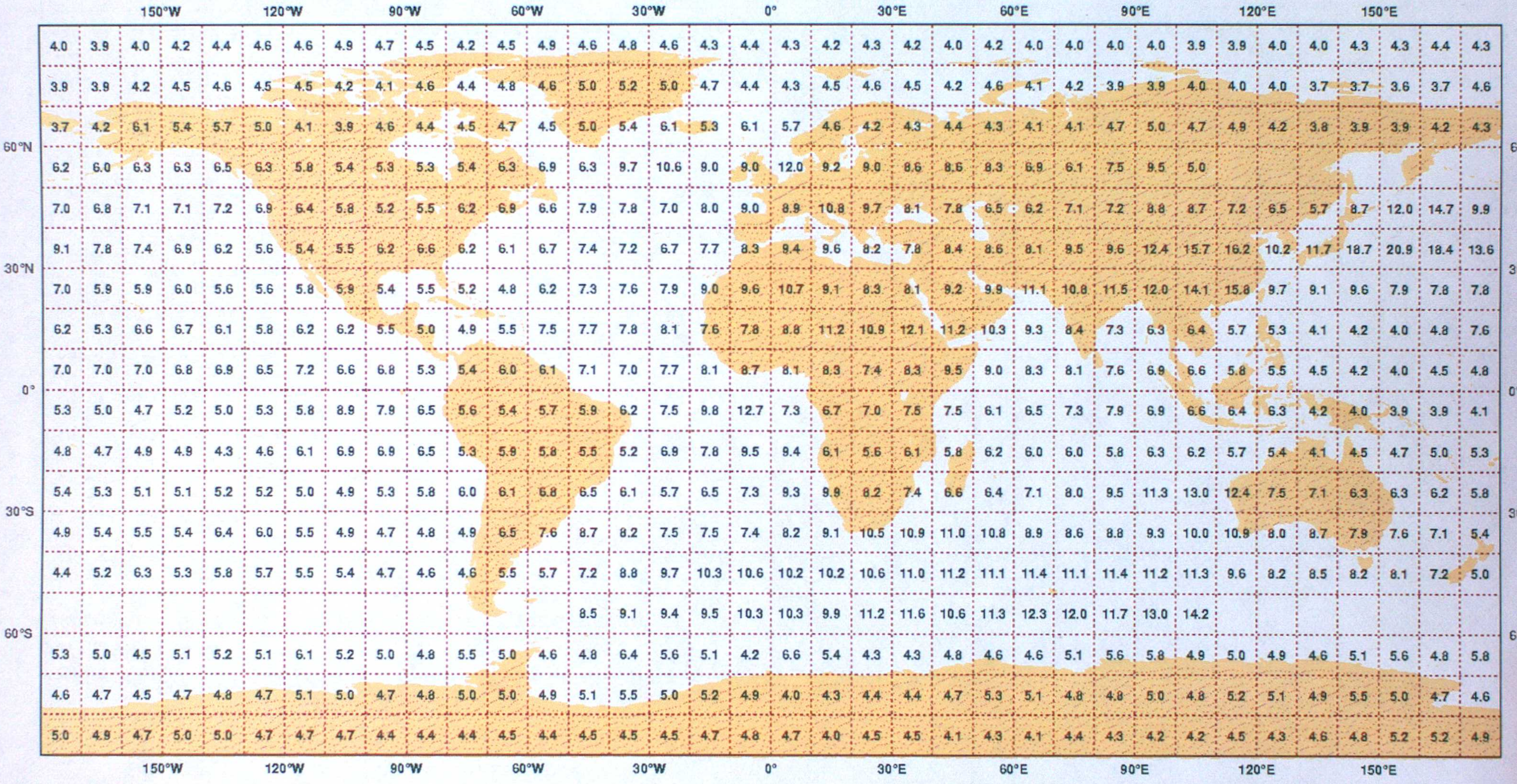
All observations

Values are plotted where greater than 10 obs are present



-0.6	-1.1	-0.2	-0.3	-0.4	-0.6	-1.2	-1.3	-1.0	-0.3	0.2	-1.0	-1.3	-1.1	-0.4	0.1	-0.5	-0.8	-0.2	-0.0	-0.4	-0.3	-0.0	-0.5	0.2	0.4	-0.0	-0.5	-0.3	-0.0	-0.2	-0.4	-0.1	-0.1	-0.9	-0.8
0.1	0.2	-0.0	-0.9	-1.0	-1.0	-1.2	-1.0	0.4	-0.7	-0.7	-0.8	-0.7	-1.1	-1.0	-0.0	0.2	0.1	0.1	-0.4	-0.6	-0.5	-0.2	-0.5	-0.3	-0.5	0.2	-0.1	-0.6	0.1	0.4	-0.2	-0.2	-0.5	-0.8	-1.0
1.2	0.9	-1.7	-1.6	-1.3	-1.0	-0.6	-3.0	-0.8	-1.3	-0.9	-0.4	-0.2	-0.4	-1.1	-0.3	0.8	-0.7	-1.6	-0.1	0.1	1.1	-0.3	-0.7	0.5	0.3	-0.6	0.9	-1.5	-0.7	0.5	-0.2	-0.6	-1.2	-1.1	0.0
-2.4	-1.7	-2.6	-0.8	-1.4	-1.6	-1.4	-1.0	-1.7	-1.8	-1.9	-1.5	-0.7	0.1	-2.3	-3.8	-2.3	-1.6	-3.6	-2.2	-2.2	-2.7	-2.9	-1.7	-0.7	0.1	-0.5	-1.2	-3.8							
-1.2	-1.2	-0.7	-0.4	-0.5	-0.6	-1.5	-1.1	-1.1	-1.8	-1.7	-0.6	0.3	-0.4	-0.7	-0.3	-0.9	-1.7	-2.2	-3.8	-3.3	-2.4	-2.0	-0.1	0.1	-0.7	-1.3	-0.7	-2.3	-2.5	-2.5	-1.5	-4.9	-5.3	-7.5	-2.4
-1.3	-1.0	-0.2	-0.1	0.3	0.6	0.2	0.4	1.2	0.4	0.7	0.4	-0.4	-0.4	-0.0	-0.3	-0.7	-0.6	-2.0	-3.1	-1.8	-1.2	-2.2	-2.1	-1.2	-3.0	-4.1	-4.1	-6.2	-5.7	-1.6	-4.3	-7.7	-10.6	-9.5	-2.9
-1.0	-0.0	0.2	0.3	0.4	0.3	-0.2	-0.3	0.6	0.2	0.3	-0.2	-0.9	-1.0	-0.5	-0.4	-0.8	-0.3	-0.3	-0.5	-0.8	-1.0	-1.0	-1.3	-0.7	1.3	-0.7	-1.9	-3.1	-2.1	-1.4	-1.6	-2.7	-2.7	-3.8	-1.1
0.8	-0.1	-1.0	-1.1	-0.0	-0.0	0.6	0.1	0.1	0.3	-0.1	0.4	0.9	-0.4	-0.8	-0.5	0.4	1.2	2.1	3.8	4.3	3.9	2.8	1.8	1.8	2.7	2.1	1.4	1.7	1.6	1.6	0.8	0.8	0.3	1.3	2.9
1.8	1.1	-1.1	-0.4	-0.4	-0.5	-0.5	1.0	0.5	0.1	0.3	1.8	1.5	1.8	0.8	0.8	1.4	2.5	2.3	3.0	2.8	2.2	2.9	2.8	3.1	4.0	4.0	2.7	2.2	1.5	1.7	1.2	0.9	0.8	1.0	1.5
1.8	1.2	0.3	-0.2	0.1	0.7	-0.3	-0.5	-1.1	-0.3	1.4	2.0	1.6	1.0	1.4	1.5	3.4	5.3	1.6	2.3	2.4	2.1	2.6	2.0	2.2	2.9	3.9	3.0	2.3	2.3	2.2	0.7	0.3	0.7	0.7	0.4
0.8	0.9	-0.0	-0.7	-0.7	-0.6	0.1	0.9	0.4	-0.1	0.8	2.2	1.1	0.4	0.8	1.3	1.6	2.6	2.4	1.8	1.1	0.6	1.3	0.9	1.4	1.2	1.0	2.0	1.8	1.7	1.8	-0.0	0.1	0.3	-0.4	0.9
-0.1	0.2	0.3	-0.3	-0.4	-0.7	-0.5	0.2	0.0	-1.1	0.1	-0.7	0.1	0.3	0.1	0.3	0.5	1.4	-0.3	-1.4	-0.9	0.4	-0.0	-0.2	0.3	1.1	1.6	2.1	2.5	-0.8	-2.4	-2.0	-1.3	-1.0	-0.7	0.6
0.1	0.3	0.1	0.5	0.1	0.1	0.2	0.4	0.0	0.1	-0.1	-1.5	-0.9	-0.8	-0.1	-0.2	-0.8	-0.6	-0.1	-0.8	-1.1	-1.4	-2.9	-2.6	-1.4	-0.9	-0.7	-0.6	-1.2	-1.6	-2.5	-3.0	-2.2	-1.8	-1.3	0.3
0.0	-0.1	-1.4	-0.4	-1.2	0.1	0.3	0.2	-0.3	-0.2	-0.2	-0.7	0.0	-1.1	-1.8	-2.3	-3.0	-2.8	-2.4	-2.1	-2.3	-3.3	-4.0	-4.1	-4.2	-3.5	-3.2	-3.5	-3.5	-3.8	-3.4	-3.4	-3.0	-2.2	-1.9	0.2
													-3.0	-3.4	-3.6	-3.0	-2.7	-2.5	-2.5	-2.3	-1.4	-1.4	-2.1	-2.4	-2.7	-2.6	-2.8	-1.9							
-1.0	-0.8	-1.7	-1.5	-1.9	-1.6	0.6	-2.2	-1.5	-1.2	-1.7	-0.0	-1.4	-1.5	-2.4	-1.4	-0.0	0.7	-0.6	-1.9	-1.0	0.1	-0.7	-0.1	-0.1	-0.6	-1.8	-2.3	-2.0	-0.9	0.3	-1.0	-0.6	0.2	-0.3	-1.5
-0.8	-0.5	-0.8	-0.4	-0.2	-0.2	-0.5	-0.7	-1.2	-1.4	-1.3	-0.6	-0.5	-0.5	-0.8	0.5	1.1	-0.7	0.2	-0.1	-0.4	-0.7	-0.4	-1.0	-1.3	-0.6	-0.4	-0.9	0.1	-0.5	-1.7	-1.6	-0.5	0.2	-0.4	-0.5
-1.0	-1.0	-0.9	-0.8	-0.7	-0.3	-0.1	0.0	-0.6	-0.5	-0.3	-0.2	-0.4	-0.4	-0.8	-1.1	-1.2	-0.7	-0.2	0.0	-0.8	-0.5	-0.4	-0.8	-1.1	-1.2	-1.0	-1.1	-0.9	-1.1	-0.8	-0.9	-0.9	-0.9	-0.9	-1.0

Figure 24. SATOB 101 - 400 hPa mean RMS O-B vector differences (ms-1). DECEMBER 2005
All observations
Values are plotted where greater than 10 obs are present



4.0	3.9	4.0	4.2	4.4	4.6	4.6	4.9	4.7	4.5	4.2	4.5	4.9	4.6	4.8	4.6	4.3	4.4	4.3	4.2	4.3	4.2	4.0	4.2	4.0	4.0	4.0	4.0	3.9	3.9	4.0	4.0	4.3	4.3	4.4	4.3
3.9	3.9	4.2	4.5	4.6	4.5	4.5	4.2	4.1	4.6	4.4	4.8	4.6	5.0	5.2	5.0	4.7	4.4	4.3	4.5	4.6	4.5	4.2	4.6	4.1	4.2	3.9	3.9	4.0	4.0	4.0	3.7	3.7	3.6	3.7	4.6
3.7	4.2	6.1	5.4	5.7	5.0	4.1	3.9	4.6	4.4	4.5	4.7	4.5	5.0	5.4	6.1	5.3	6.1	5.7	4.6	4.2	4.3	4.4	4.3	4.1	4.1	4.7	5.0	4.7	4.9	4.2	3.8	3.9	3.9	4.2	4.3
6.2	6.0	6.3	6.3	6.5	6.3	5.8	5.4	5.3	5.3	5.4	6.3	6.9	6.3	9.7	10.6	9.0	9.0	12.0	9.2	9.0	8.6	8.6	8.3	6.9	6.1	7.5	9.5	5.0							
7.0	6.8	7.1	7.1	7.2	6.9	6.4	5.8	5.2	5.5	6.2	6.9	6.6	7.9	7.8	7.0	8.0	9.0	8.9	10.8	9.7	8.1	7.8	6.5	6.2	7.1	7.2	8.8	8.7	7.2	6.5	5.7	8.7	12.0	14.7	9.9
9.1	7.8	7.4	6.9	6.2	5.6	5.4	5.5	6.2	6.6	6.2	6.1	6.7	7.4	7.2	6.7	7.7	8.3	9.4	9.6	8.2	7.8	8.4	8.6	8.1	9.5	9.6	12.4	15.7	16.2	10.2	11.7	18.7	20.9	18.4	13.6
7.0	5.9	5.9	6.0	5.6	5.6	5.8	5.9	5.4	5.5	5.2	4.8	6.2	7.3	7.6	7.9	9.0	9.6	10.7	9.1	8.3	8.1	9.2	9.9	11.1	10.8	11.5	12.0	14.1	15.8	9.7	9.1	9.6	7.9	7.8	7.8
6.2	5.3	6.6	6.7	6.1	5.8	6.2	6.2	5.5	5.0	4.9	5.5	7.5	7.7	7.8	8.1	7.6	7.8	8.8	11.2	10.9	12.1	11.2	10.3	9.3	8.4	7.3	6.3	6.4	5.7	5.3	4.1	4.2	4.0	4.8	7.6
7.0	7.0	7.0	6.8	6.9	6.5	7.2	6.6	6.8	5.3	5.4	6.0	6.1	7.1	7.0	7.7	8.1	8.7	8.1	8.3	7.4	8.3	9.5	9.0	8.3	8.1	7.6	6.9	6.6	5.8	5.5	4.5	4.2	4.0	4.5	4.8
5.3	5.0	4.7	5.2	5.0	5.3	5.8	8.9	7.9	6.5	5.6	5.4	5.7	5.9	6.2	7.5	9.8	12.7	7.3	6.7	7.0	7.5	7.5	6.1	6.5	7.3	7.9	6.9	6.6	6.4	6.3	4.2	4.0	3.9	3.9	4.1
4.8	4.7	4.9	4.9	4.3	4.6	6.1	6.9	6.9	6.5	5.3	5.9	5.8	5.5	5.2	6.9	7.8	9.5	9.4	6.1	5.6	6.1	5.8	6.2	6.0	6.0	5.8	6.3	6.2	5.7	5.4	4.1	4.5	4.7	5.0	5.3
5.4	5.3	5.1	5.1	5.2	5.2	5.0	4.9	5.3	5.8	6.0	6.1	6.8	6.5	6.1	5.7	6.5	7.3	9.3	9.9	8.2	7.4	6.6	6.4	7.1	8.0	9.5	11.3	13.0	12.4	7.5	7.1	6.3	6.3	6.2	5.8
4.9	5.4	5.5	5.4	6.4	6.0	5.5	4.9	4.7	4.8	4.9	6.5	7.6	8.7	8.2	7.5	7.5	7.4	8.2	9.1	10.5	10.9	11.0	10.8	8.9	8.6	8.8	9.3	10.0	10.9	8.0	8.7	7.9	7.6	7.1	5.4
4.4	5.2	6.3	5.3	5.8	5.7	5.5	5.4	4.7	4.6	4.6	5.5	5.7	7.2	8.8	9.7	10.3	10.6	10.2	10.2	10.6	11.0	11.2	11.1	11.4	11.1	11.4	11.2	11.3	9.6	8.2	8.5	8.2	8.1	7.2	5.0
													8.5	9.1	9.4	9.5	10.3	10.3	9.9	11.2	11.6	10.6	11.3	12.3	12.0	11.7	13.0	14.2							
5.3	5.0	4.5	5.1	5.2	5.1	6.1	5.2	5.0	4.8	5.5	5.0	4.6	4.8	6.4	5.6	5.1	4.2	6.6	5.4	4.3	4.3	4.8	4.6	4.6	5.1	5.6	5.8	4.9	5.0	4.9	4.6	5.1	5.6	4.8	5.8
4.6	4.7	4.5	4.7	4.8	4.7	5.1	5.0	4.7	4.8	5.0	5.0	4.9	5.1	5.5	5.0	5.2	4.9	4.0	4.3	4.4	4.4	4.7	5.3	5.1	4.8	4.8	5.0	4.8	5.2	5.1	4.9	5.5	5.0	4.7	4.6
5.0	4.9	4.7	5.0	5.0	4.7	4.7	4.7	4.4	4.4	4.4	4.5	4.4	4.5	4.5	4.5	4.7	4.8	4.7	4.0	4.5	4.5	4.1	4.3	4.1	4.4	4.3	4.2	4.2	4.5	4.3	4.6	4.8	5.2	5.2	4.9

MONITORING OF SATELLITE TEMPERATURES

MONITORING CENTRE: EXETER

MONTH: Dec 05

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from NOAA-15, NOAA-16 and NOAA-17.

Standard of comparison :Background field from UKMO global model.

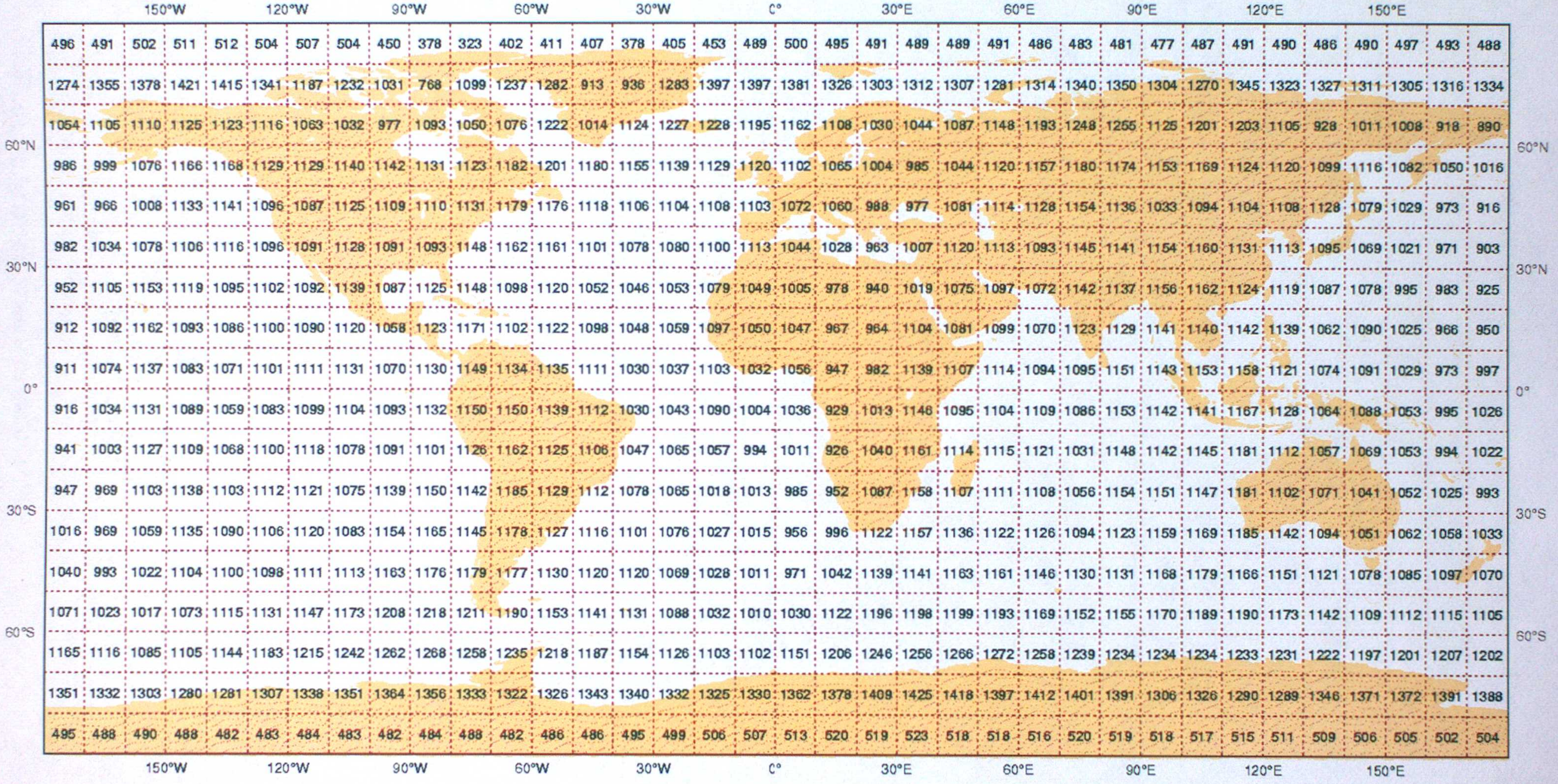
Selection Criteria :All soundings.

Data Extracted :Sounding channels (and approximate weighting function peaks, hPa)

HIRS8 (Surface)
HIRS15 (700)
HIRS11 (500-700)
HIRS4 (400)
AMSUA5 (700)
AMSUA7 (300)
AMSUA9 (100)

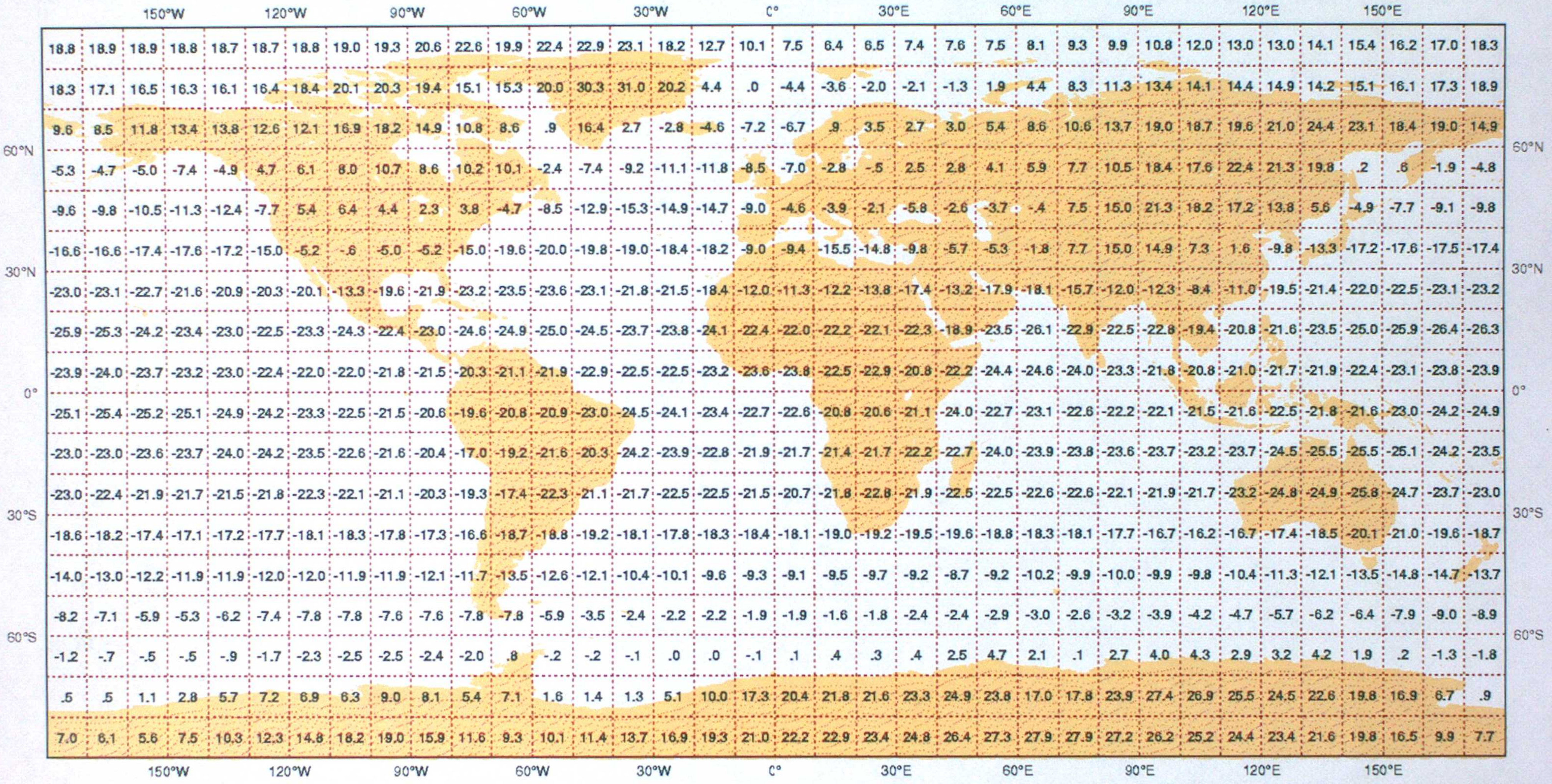
:Mean and standard deviation observation-minus-background brightness temperature differences

Figure 25. ATOVS mean daily count. DECEMBER 2005
NOAA15, using all observations
Global average number of observations in 24 hours = 683731



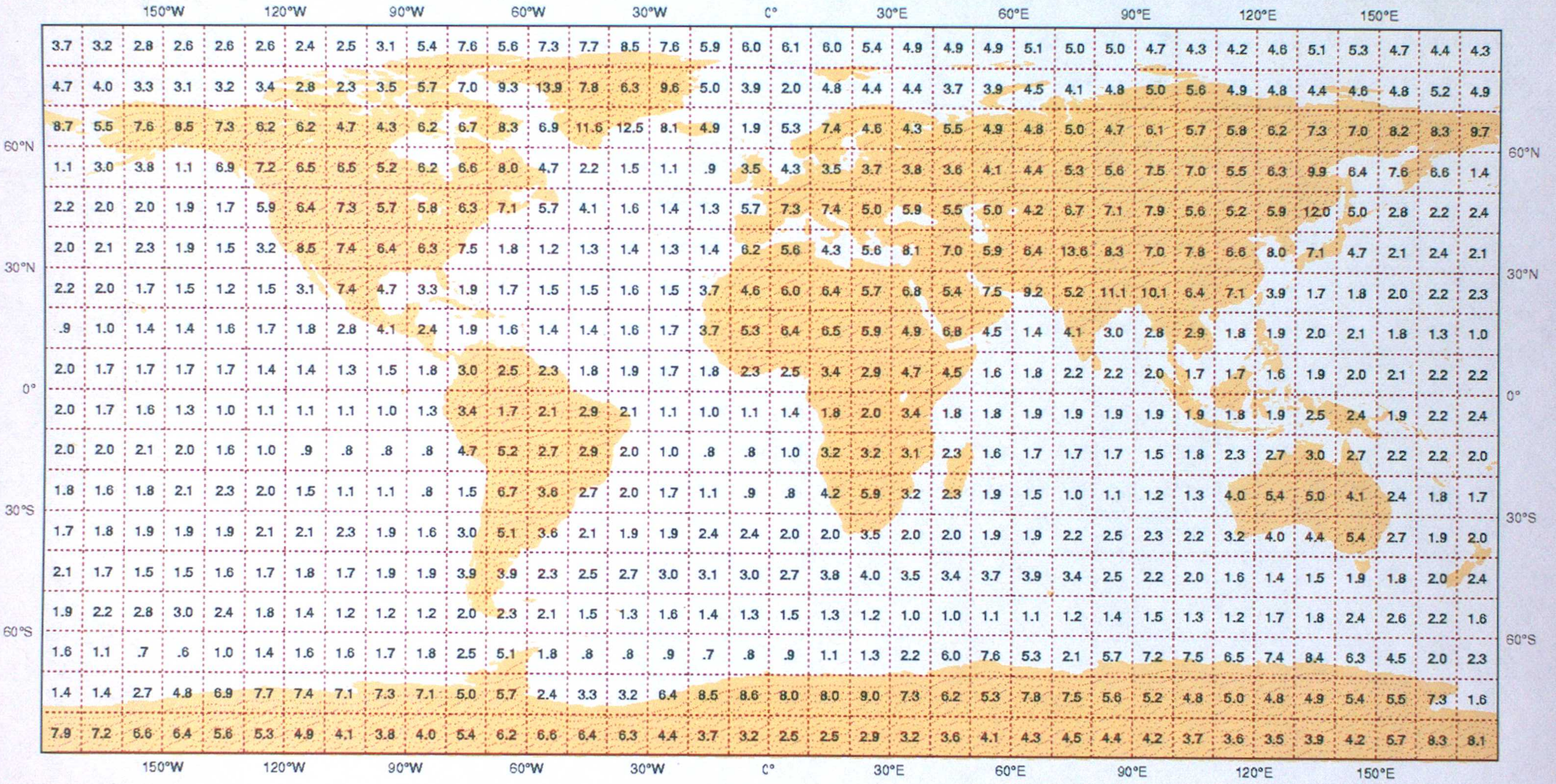
496	491	502	511	512	504	507	504	450	378	323	402	411	407	378	405	453	489	500	495	491	489	489	491	486	483	481	477	487	491	490	486	490	497	493	488
1274	1355	1378	1421	1415	1341	1187	1232	1031	768	1099	1237	1282	913	936	1283	1397	1397	1381	1326	1303	1312	1307	1281	1314	1340	1350	1304	1270	1345	1323	1327	1311	1305	1316	1334
1054	1105	1110	1125	1123	1116	1063	1032	977	1093	1050	1076	1222	1014	1124	1227	1228	1195	1162	1108	1030	1044	1087	1148	1193	1248	1255	1125	1201	1203	1105	928	1011	1008	918	890
986	999	1076	1166	1168	1129	1129	1140	1142	1131	1123	1182	1201	1180	1155	1139	1129	1120	1102	1065	1004	985	1044	1120	1157	1180	1174	1153	1169	1124	1120	1099	1116	1082	1050	1016
961	966	1008	1133	1141	1096	1087	1125	1109	1110	1131	1179	1176	1118	1106	1104	1108	1103	1072	1060	988	977	1081	1114	1128	1154	1136	1033	1094	1104	1108	1128	1079	1029	973	916
982	1034	1078	1106	1116	1096	1091	1128	1091	1093	1148	1162	1161	1101	1078	1080	1100	1113	1044	1028	963	1007	1120	1113	1093	1145	1141	1154	1160	1131	1113	1095	1069	1021	971	903
952	1105	1153	1119	1095	1102	1092	1139	1087	1125	1148	1098	1120	1052	1046	1053	1079	1049	1005	978	940	1019	1075	1097	1072	1142	1137	1156	1162	1124	1119	1087	1078	995	983	925
912	1092	1162	1093	1086	1100	1090	1120	1058	1123	1171	1102	1122	1098	1048	1059	1097	1050	1047	967	964	1104	1081	1099	1070	1123	1129	1141	1140	1142	1139	1062	1090	1025	966	950
911	1074	1137	1083	1071	1101	1111	1131	1070	1130	1149	1134	1135	1111	1030	1037	1103	1032	1056	947	982	1139	1107	1114	1094	1095	1151	1143	1153	1158	1121	1074	1091	1029	973	997
916	1034	1131	1089	1059	1083	1099	1104	1093	1132	1150	1150	1139	1112	1030	1043	1090	1004	1036	929	1013	1146	1095	1104	1109	1086	1153	1142	1141	1167	1128	1064	1088	1053	995	1026
941	1003	1127	1109	1068	1100	1118	1078	1091	1101	1126	1162	1125	1106	1047	1065	1057	994	1011	926	1040	1161	1114	1115	1121	1031	1148	1142	1145	1181	1112	1057	1069	1053	994	1022
947	969	1103	1138	1103	1112	1121	1075	1139	1150	1142	1185	1129	1112	1078	1065	1018	1013	985	952	1087	1158	1107	1111	1108	1056	1154	1151	1147	1181	1102	1071	1041	1052	1025	993
1016	969	1059	1135	1090	1106	1120	1083	1154	1165	1145	1178	1127	1116	1101	1076	1027	1015	956	996	1122	1157	1136	1122	1126	1094	1123	1159	1169	1185	1142	1094	1051	1062	1058	1033
1040	993	1022	1104	1100	1098	1111	1113	1163	1176	1179	1177	1130	1120	1120	1069	1028	1011	971	1042	1139	1141	1163	1161	1146	1130	1131	1168	1179	1166	1151	1121	1078	1085	1097	1070
1071	1023	1017	1073	1115	1131	1147	1173	1208	1218	1211	1190	1153	1141	1131	1088	1032	1010	1030	1122	1196	1198	1199	1193	1169	1152	1155	1170	1189	1190	1173	1142	1109	1112	1115	1105
1165	1116	1085	1105	1144	1183	1215	1242	1262	1268	1258	1235	1218	1187	1154	1126	1103	1102	1151	1206	1246	1256	1266	1272	1258	1239	1234	1234	1234	1233	1231	1222	1197	1201	1207	1202
1351	1332	1303	1280	1281	1307	1338	1351	1364	1356	1333	1322	1326	1343	1340	1332	1325	1330	1362	1378	1409	1425	1418	1397	1412	1401	1391	1306	1326	1290	1289	1346	1371	1372	1391	1388
495	488	490	488	482	483	484	483	482	484	488	482	486	486	495	499	506	507	513	520	519	523	518	518	516	520	519	518	517	515	511	509	506	505	502	504

Figure 26. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS8 (Surface)
NOAA15, using all observations



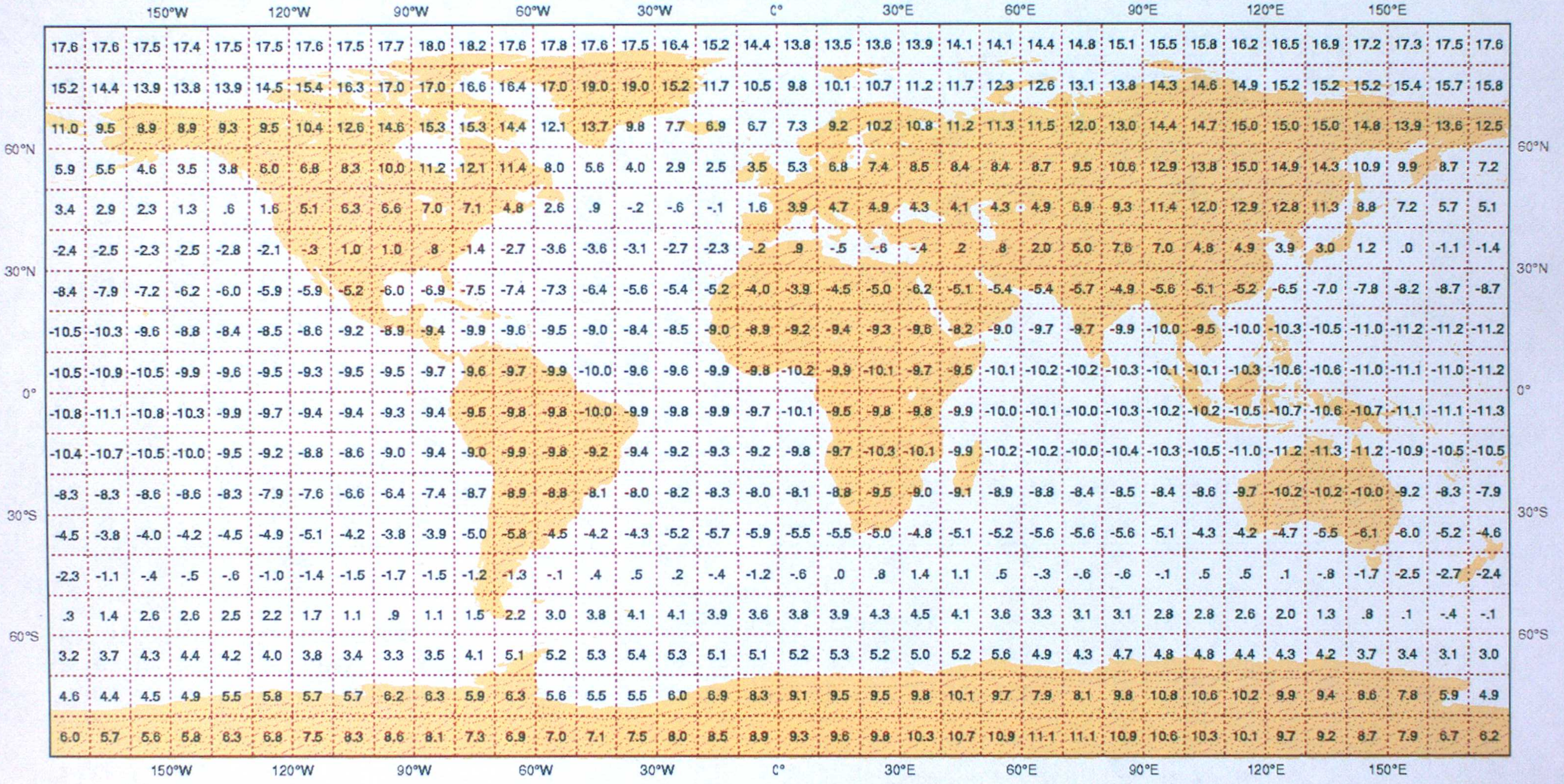
18.8	18.9	18.9	18.8	18.7	18.7	18.8	19.0	19.3	20.6	22.6	19.9	22.4	22.9	23.1	18.2	12.7	10.1	7.5	6.4	6.5	7.4	7.6	7.5	8.1	9.3	9.9	10.8	12.0	13.0	13.0	14.1	15.4	16.2	17.0	18.3
18.3	17.1	16.5	16.3	16.1	16.4	18.4	20.1	20.3	19.4	15.1	15.3	20.0	30.3	31.0	20.2	4.4	.0	-4.4	-3.6	-2.0	-2.1	-1.3	1.9	4.4	8.3	11.3	13.4	14.1	14.4	14.9	14.2	15.1	16.1	17.3	18.9
9.6	8.5	11.8	13.4	13.8	12.6	12.1	16.9	18.2	14.9	10.8	8.6	.9	16.4	2.7	-2.8	-4.6	-7.2	-6.7	.9	3.5	2.7	3.0	5.4	8.6	10.6	13.7	19.0	18.7	19.6	21.0	24.4	23.1	18.4	19.0	14.9
-5.3	-4.7	-5.0	-7.4	-4.9	4.7	6.1	8.0	10.7	8.6	10.2	10.1	-2.4	-7.4	-9.2	-11.1	-11.8	-8.5	-7.0	-2.8	-.5	2.5	2.8	4.1	5.9	7.7	10.5	18.4	17.6	22.4	21.3	19.8	.2	.6	-1.9	-4.8
-9.6	-9.8	-10.5	-11.3	-12.4	-7.7	5.4	6.4	4.4	2.3	3.8	-4.7	-8.5	-12.9	-15.3	-14.9	-14.7	-9.0	-4.6	-3.9	-2.1	-5.8	-2.6	-3.7	-.4	7.5	15.0	21.3	18.2	17.2	13.8	5.6	-4.9	-7.7	-9.1	-9.8
-16.6	-16.6	-17.4	-17.6	-17.2	-15.0	-5.2	-.6	-5.0	-5.2	-15.0	-19.6	-20.0	-19.8	-19.0	-18.4	-18.2	-9.0	-9.4	-15.5	-14.8	-9.8	-5.7	-5.3	-1.8	7.7	15.0	14.9	7.3	1.6	-9.8	-13.3	-17.2	-17.6	-17.5	-17.4
-23.0	-23.1	-22.7	-21.6	-20.9	-20.3	-20.1	-13.3	-19.6	-21.9	-23.2	-23.5	-23.6	-23.1	-21.8	-21.5	-18.4	-12.0	-11.3	-12.2	-13.8	-17.4	-13.2	-17.9	-18.1	-15.7	-12.0	-12.3	-8.4	-11.0	-19.5	-21.4	-22.0	-22.5	-23.1	-23.2
-25.9	-25.3	-24.2	-23.4	-23.0	-22.5	-23.3	-24.3	-22.4	-23.0	-24.6	-24.9	-25.0	-24.5	-23.7	-23.8	-24.1	-22.4	-22.0	-22.2	-22.1	-22.3	-18.9	-23.5	-26.1	-22.9	-22.5	-22.8	-19.4	-20.8	-21.6	-23.5	-25.0	-25.9	-26.4	-26.3
-23.9	-24.0	-23.7	-23.2	-23.0	-22.4	-22.0	-22.0	-21.8	-21.5	-20.3	-21.1	-21.9	-22.9	-22.5	-22.5	-23.2	-23.6	-23.8	-22.5	-22.9	-20.8	-22.2	-24.4	-24.6	-24.0	-23.3	-21.8	-20.8	-21.0	-21.7	-21.9	-22.4	-23.1	-23.8	-23.9
-25.1	-25.4	-25.2	-25.1	-24.9	-24.2	-23.3	-22.5	-21.5	-20.6	-19.6	-20.8	-20.9	-23.0	-24.5	-24.1	-23.4	-22.7	-22.6	-20.8	-20.6	-21.1	-24.0	-22.7	-23.1	-22.6	-22.2	-22.1	-21.5	-21.6	-22.5	-21.8	-21.6	-23.0	-24.2	-24.9
-23.0	-23.0	-23.6	-23.7	-24.0	-24.2	-23.5	-22.6	-21.6	-20.4	-17.0	-19.2	-21.6	-20.3	-24.2	-23.9	-22.8	-21.9	-21.7	-21.4	-21.7	-22.2	-22.7	-24.0	-23.9	-23.8	-23.6	-23.7	-23.2	-23.7	-24.5	-25.5	-25.5	-25.1	-24.2	-23.5
-23.0	-22.4	-21.9	-21.7	-21.5	-21.8	-22.3	-22.1	-21.1	-20.3	-19.3	-17.4	-22.3	-21.1	-21.7	-22.5	-22.5	-21.5	-20.7	-21.8	-22.8	-21.9	-22.5	-22.5	-22.6	-22.6	-22.1	-21.9	-21.7	-23.2	-24.8	-24.9	-25.8	-24.7	-23.7	-23.0
-18.6	-18.2	-17.4	-17.1	-17.2	-17.7	-18.1	-18.3	-17.8	-17.3	-16.6	-18.7	-18.8	-19.2	-18.1	-17.8	-18.3	-18.4	-18.1	-19.0	-19.2	-19.5	-19.6	-18.8	-18.3	-18.1	-17.7	-16.7	-16.2	-16.7	-17.4	-18.5	-20.1	-21.0	-19.6	-18.7
-14.0	-13.0	-12.2	-11.9	-11.9	-12.0	-12.0	-11.9	-11.9	-12.1	-11.7	-13.5	-12.6	-12.1	-10.4	-10.1	-9.6	-9.3	-9.1	-9.5	-9.7	-9.2	-8.7	-9.2	-10.2	-9.9	-10.0	-9.9	-9.8	-10.4	-11.3	-12.1	-13.5	-14.8	-14.7	-13.7
-8.2	-7.1	-5.9	-5.3	-6.2	-7.4	-7.8	-7.8	-7.6	-7.6	-7.8	-7.8	-5.9	-3.5	-2.4	-2.2	-2.2	-1.9	-1.9	-1.6	-1.8	-2.4	-2.4	-2.9	-3.0	-2.6	-3.2	-3.9	-4.2	-4.7	-5.7	-6.2	-6.4	-7.9	-9.0	-8.9
-1.2	-.7	-.5	-.5	-.9	-1.7	-2.3	-2.5	-2.5	-2.4	-2.0	.8	-.2	-.2	-.1	.0	.0	-.1	.1	.4	.3	.4	2.5	4.7	2.1	.1	2.7	4.0	4.3	2.9	3.2	4.2	1.9	.2	-1.3	-1.8
.5	.5	1.1	2.8	5.7	7.2	6.9	6.3	9.0	8.1	5.4	7.1	1.6	1.4	1.3	5.1	10.0	17.3	20.4	21.8	21.6	23.3	24.9	23.8	17.0	17.8	23.9	27.4	26.9	25.5	24.5	22.6	19.8	16.9	6.7	.9
7.0	6.1	5.6	7.5	10.3	12.3	14.8	18.2	19.0	15.9	11.6	9.3	10.1	11.4	13.7	16.9	19.3	21.0	22.2	22.9	23.4	24.8	26.4	27.3	27.9	27.9	27.2	26.2	25.2	24.4	23.4	21.6	19.8	16.5	9.9	7.7

Figure 27. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS8 (Surface)
NOAA15, using all observations



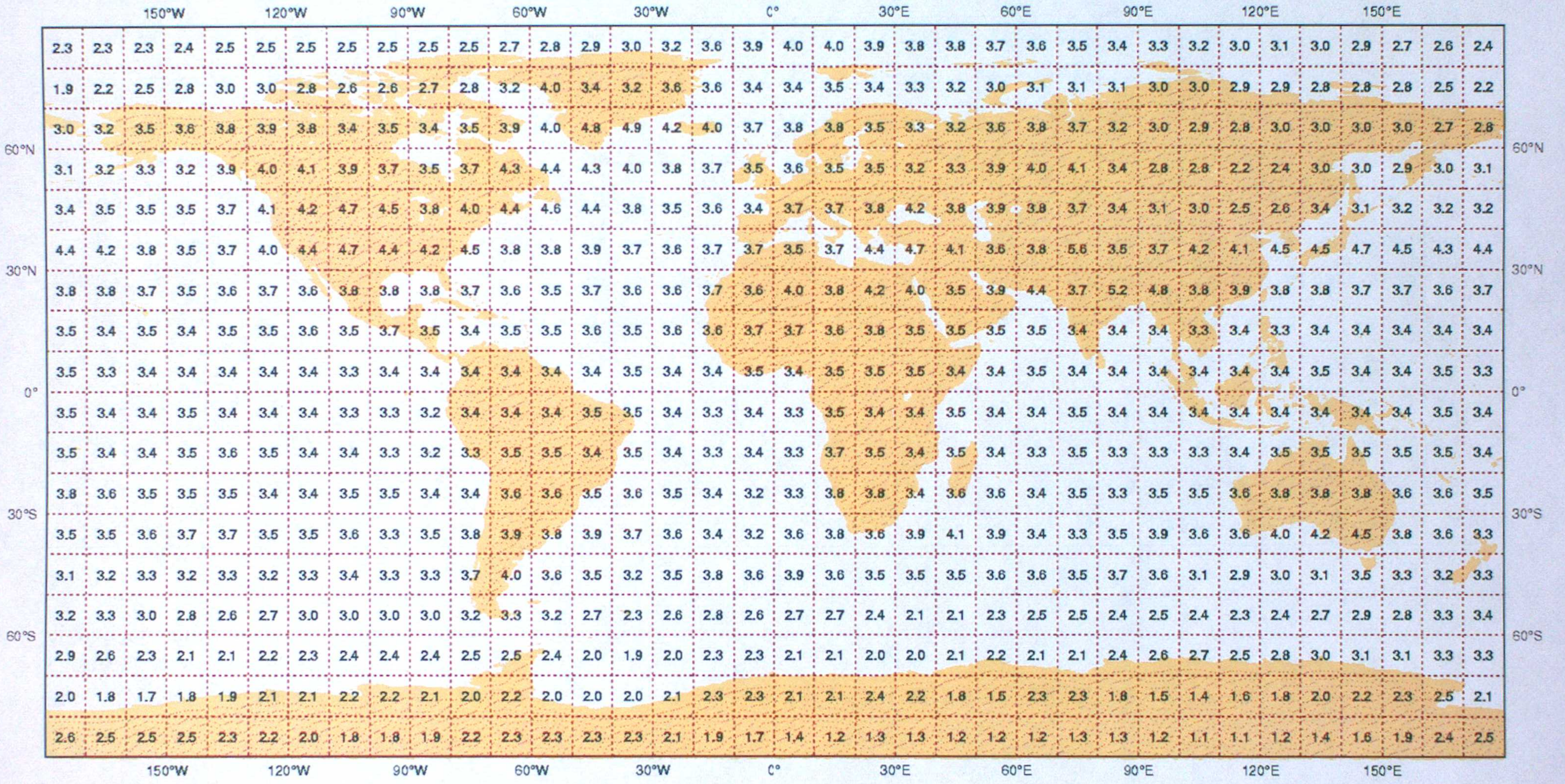
3.7	3.2	2.8	2.6	2.6	2.6	2.4	2.5	3.1	5.4	7.6	5.6	7.3	7.7	8.5	7.6	5.9	6.0	6.1	6.0	5.4	4.9	4.9	4.9	5.1	5.0	5.0	4.7	4.3	4.2	4.6	5.1	5.3	4.7	4.4	4.3
4.7	4.0	3.3	3.1	3.2	3.4	2.8	2.3	3.5	5.7	7.0	9.3	13.9	7.8	6.3	9.6	5.0	3.9	2.0	4.8	4.4	4.4	3.7	3.9	4.5	4.1	4.8	5.0	5.6	4.9	4.8	4.4	4.6	4.8	5.2	4.9
8.7	5.5	7.6	8.5	7.3	6.2	6.2	4.7	4.3	6.2	6.7	8.3	6.9	11.6	12.5	8.1	4.9	1.9	5.3	7.4	4.6	4.3	5.5	4.9	4.8	5.0	4.7	6.1	5.7	5.8	6.2	7.3	7.0	8.2	8.3	9.7
1.1	3.0	3.8	1.1	6.9	7.2	6.5	6.5	5.2	6.2	6.6	8.0	4.7	2.2	1.5	1.1	.9	3.5	4.3	3.5	3.7	3.8	3.6	4.1	4.4	5.3	5.6	7.5	7.0	5.5	6.3	9.9	6.4	7.6	6.6	1.4
2.2	2.0	2.0	1.9	1.7	5.9	6.4	7.3	5.7	5.8	6.3	7.1	5.7	4.1	1.6	1.4	1.3	5.7	7.3	7.4	5.0	5.9	5.5	5.0	4.2	6.7	7.1	7.9	5.6	5.2	5.9	12.0	5.0	2.8	2.2	2.4
2.0	2.1	2.3	1.9	1.5	3.2	8.5	7.4	6.4	6.3	7.5	1.8	1.2	1.3	1.4	1.3	1.4	6.2	5.6	4.3	5.6	8.1	7.0	5.9	6.4	13.6	8.3	7.0	7.8	6.6	8.0	7.1	4.7	2.1	2.4	2.1
2.2	2.0	1.7	1.5	1.2	1.5	3.1	7.4	4.7	3.3	1.9	1.7	1.5	1.5	1.6	1.5	3.7	4.6	6.0	6.4	5.7	6.8	5.4	7.5	9.2	5.2	11.1	10.1	6.4	7.1	3.9	1.7	1.8	2.0	2.2	2.3
.9	1.0	1.4	1.4	1.6	1.7	1.8	2.8	4.1	2.4	1.9	1.6	1.4	1.4	1.6	1.7	3.7	5.3	6.4	6.5	5.9	4.9	6.8	4.5	1.4	4.1	3.0	2.8	2.9	1.8	1.9	2.0	2.1	1.8	1.3	1.0
2.0	1.7	1.7	1.7	1.7	1.4	1.4	1.3	1.5	1.8	3.0	2.5	2.3	1.8	1.9	1.7	1.8	2.3	2.5	3.4	2.9	4.7	4.5	1.6	1.8	2.2	2.2	2.0	1.7	1.7	1.6	1.9	2.0	2.1	2.2	2.2
2.0	1.7	1.6	1.3	1.0	1.1	1.1	1.1	1.0	1.3	3.4	1.7	2.1	2.9	2.1	1.1	1.0	1.1	1.4	1.8	2.0	3.4	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.8	1.9	2.5	2.4	1.9	2.2	2.4
2.0	2.0	2.1	2.0	1.6	1.0	.9	.8	.8	.8	4.7	5.2	2.7	2.9	2.0	1.0	.8	.8	1.0	3.2	3.2	3.1	2.3	1.6	1.7	1.7	1.7	1.5	1.8	2.3	2.7	3.0	2.7	2.2	2.2	2.0
1.8	1.6	1.8	2.1	2.3	2.0	1.5	1.1	1.1	.8	1.5	6.7	3.6	2.7	2.0	1.7	1.1	.9	.8	4.2	5.9	3.2	2.3	1.9	1.5	1.0	1.1	1.2	1.3	4.0	5.4	5.0	4.1	2.4	1.8	1.7
1.7	1.8	1.9	1.9	1.9	2.1	2.1	2.3	1.9	1.6	3.0	5.1	3.6	2.1	1.9	1.9	2.4	2.4	2.0	2.0	3.5	2.0	2.0	1.9	1.9	2.2	2.5	2.3	2.2	3.2	4.0	4.4	5.4	2.7	1.9	2.0
2.1	1.7	1.5	1.5	1.6	1.7	1.8	1.7	1.9	1.9	3.9	3.9	2.3	2.5	2.7	3.0	3.1	3.0	2.7	3.8	4.0	3.5	3.4	3.7	3.9	3.4	2.5	2.2	2.0	1.6	1.4	1.5	1.9	1.8	2.0	2.4
1.9	2.2	2.8	3.0	2.4	1.8	1.4	1.2	1.2	1.2	2.0	2.3	2.1	1.5	1.3	1.6	1.4	1.3	1.5	1.3	1.2	1.0	1.0	1.1	1.1	1.2	1.4	1.5	1.3	1.2	1.7	1.8	2.4	2.6	2.2	1.6
1.6	1.1	.7	.6	1.0	1.4	1.6	1.6	1.7	1.8	2.5	5.1	1.8	.8	.8	.9	.7	.8	.9	1.1	1.3	2.2	6.0	7.6	5.3	2.1	5.7	7.2	7.5	6.5	7.4	8.4	6.3	4.5	2.0	2.3
1.4	1.4	2.7	4.8	6.9	7.7	7.4	7.1	7.3	7.1	5.0	5.7	2.4	3.3	3.2	6.4	8.5	8.6	8.0	8.0	9.0	7.3	6.2	5.3	7.8	7.5	5.6	5.2	4.8	5.0	4.8	4.9	5.4	5.5	7.3	1.6
7.9	7.2	6.6	6.4	5.6	5.3	4.9	4.1	3.8	4.0	5.4	6.2	6.6	6.4	6.3	4.4	3.7	3.2	2.5	2.5	2.9	3.2	3.6	4.1	4.3	4.5	4.4	4.2	3.7	3.6	3.5	3.9	4.2	5.7	8.3	8.1

Figure 28. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS15 (700 hPa)
NOAA15, using all observations



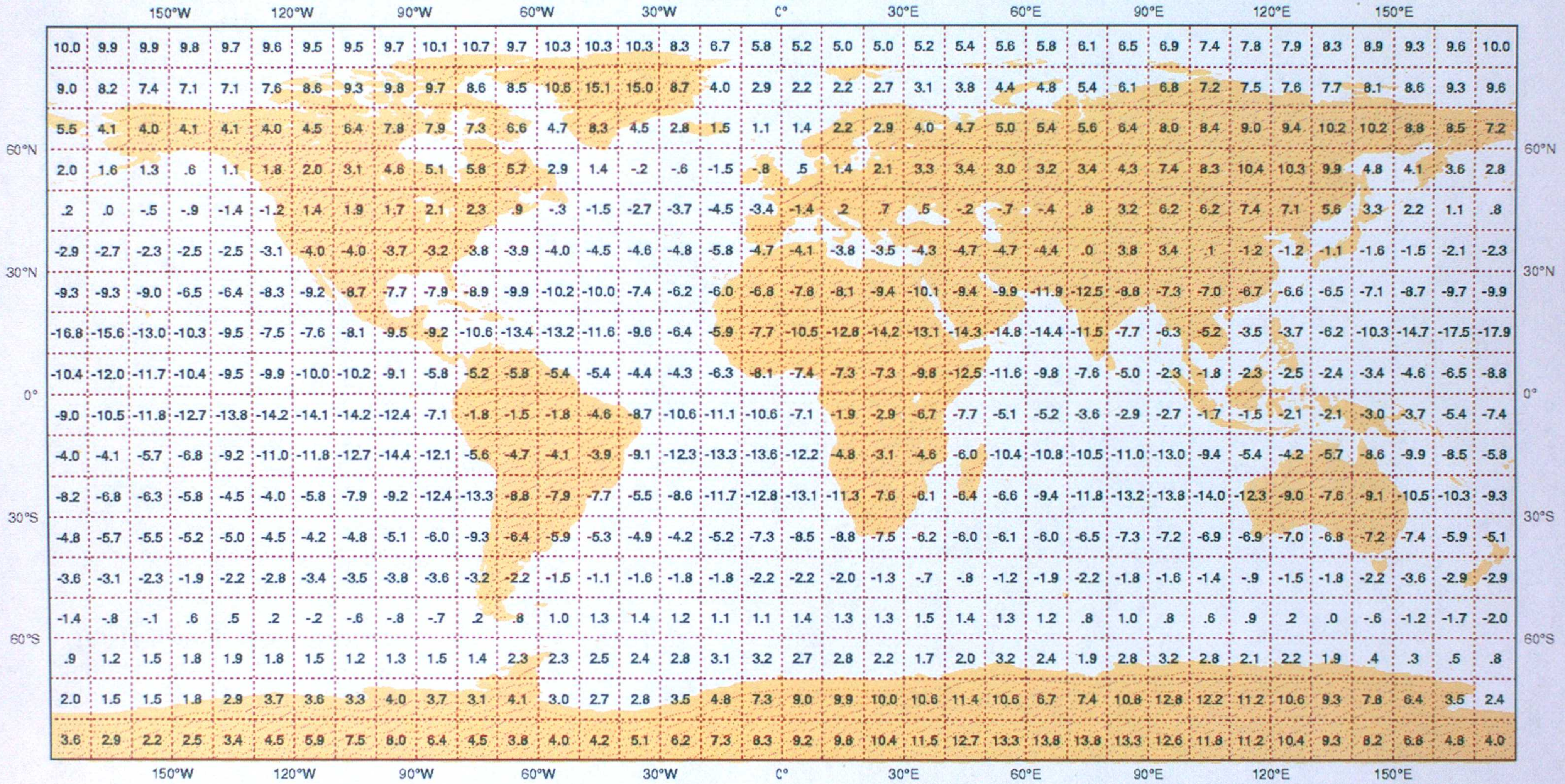
17.6	17.6	17.5	17.4	17.5	17.5	17.6	17.5	17.7	18.0	18.2	17.6	17.8	17.6	17.5	16.4	15.2	14.4	13.8	13.5	13.6	13.9	14.1	14.1	14.4	14.8	15.1	15.5	15.8	16.2	16.5	16.9	17.2	17.3	17.5	17.6
15.2	14.4	13.9	13.8	13.9	14.5	15.4	16.3	17.0	17.0	16.6	16.4	17.0	19.0	19.0	15.2	11.7	10.5	9.8	10.1	10.7	11.2	11.7	12.3	12.6	13.1	13.8	14.3	14.6	14.9	15.2	15.2	15.2	15.4	15.7	15.8
11.0	9.5	8.9	8.9	9.3	9.5	10.4	12.6	14.6	15.3	15.3	14.4	12.1	13.7	9.8	7.7	6.9	6.7	7.3	9.2	10.2	10.8	11.2	11.3	11.5	12.0	13.0	14.4	14.7	15.0	15.0	15.0	14.8	13.9	13.6	12.5
5.9	5.5	4.6	3.5	3.8	6.0	6.8	8.3	10.0	11.2	12.1	11.4	8.0	5.6	4.0	2.9	2.5	3.5	5.3	6.8	7.4	8.5	8.4	8.4	8.7	9.5	10.6	12.9	13.8	15.0	14.9	14.3	10.9	9.9	8.7	7.2
3.4	2.9	2.3	1.3	.6	1.6	5.1	6.3	6.6	7.0	7.1	4.8	2.6	.9	-.2	-.6	-.1	1.6	3.9	4.7	4.9	4.3	4.1	4.3	4.9	6.9	9.3	11.4	12.0	12.9	12.8	11.3	8.8	7.2	5.7	5.1
-2.4	-2.5	-2.3	-2.5	-2.8	-2.1	-.3	1.0	1.0	.8	-1.4	-2.7	-3.6	-3.6	-3.1	-2.7	-2.3	-.2	.9	-.5	-.6	-.4	.2	.8	2.0	5.0	7.6	7.0	4.8	4.9	3.9	3.0	1.2	.0	-1.1	-1.4
-8.4	-7.9	-7.2	-6.2	-6.0	-5.9	-5.9	-5.2	-6.0	-6.9	-7.5	-7.4	-7.3	-6.4	-5.6	-5.4	-5.2	-4.0	-3.9	-4.5	-5.0	-6.2	-5.1	-5.4	-5.4	-5.7	-4.9	-5.6	-5.1	-5.2	-6.5	-7.0	-7.8	-8.2	-8.7	-8.7
-10.5	-10.3	-9.6	-8.8	-8.4	-8.5	-8.6	-9.2	-8.9	-9.4	-9.9	-9.6	-9.5	-9.0	-8.4	-8.5	-9.0	-8.9	-9.2	-9.4	-9.3	-9.6	-8.2	-9.0	-9.7	-9.7	-9.9	-10.0	-9.5	-10.0	-10.3	-10.5	-11.0	-11.2	-11.2	-11.2
-10.5	-10.9	-10.5	-9.9	-9.6	-9.5	-9.3	-9.5	-9.5	-9.7	-9.6	-9.7	-9.9	-10.0	-9.6	-9.6	-9.9	-9.8	-10.2	-9.9	-10.1	-9.7	-9.5	-10.1	-10.2	-10.2	-10.3	-10.1	-10.1	-10.3	-10.6	-10.6	-11.0	-11.1	-11.0	-11.2
-10.8	-11.1	-10.8	-10.3	-9.9	-9.7	-9.4	-9.4	-9.3	-9.4	-9.5	-9.8	-9.8	-10.0	-9.9	-9.8	-9.9	-9.7	-10.1	-9.5	-9.8	-9.8	-9.9	-10.0	-10.1	-10.0	-10.3	-10.2	-10.2	-10.5	-10.7	-10.6	-10.7	-11.1	-11.1	-11.3
-10.4	-10.7	-10.5	-10.0	-9.5	-9.2	-8.8	-8.6	-9.0	-9.4	-9.0	-9.9	-9.8	-9.2	-9.4	-9.2	-9.3	-9.2	-9.8	-9.7	-10.3	-10.1	-9.9	-10.2	-10.2	-10.0	-10.4	-10.3	-10.5	-11.0	-11.2	-11.3	-11.2	-10.9	-10.5	-10.5
-8.3	-8.3	-8.6	-8.6	-8.3	-7.9	-7.6	-6.6	-6.4	-7.4	-8.7	-8.9	-8.8	-8.1	-8.0	-8.2	-8.3	-8.0	-8.1	-8.8	-9.5	-9.0	-9.1	-8.9	-8.8	-8.4	-8.5	-8.4	-8.6	-9.7	-10.2	-10.2	-10.0	-9.2	-8.3	-7.9
-4.5	-3.8	-4.0	-4.2	-4.5	-4.9	-5.1	-4.2	-3.8	-3.9	-5.0	-5.8	-4.5	-4.2	-4.3	-5.2	-5.7	-5.9	-5.5	-5.5	-5.0	-4.8	-5.1	-5.2	-5.6	-5.6	-5.6	-5.1	-4.3	-4.2	-4.7	-5.5	-6.1	-6.0	-5.2	-4.6
-2.3	-1.1	-.4	-.5	-.6	-1.0	-1.4	-1.5	-1.7	-1.5	-1.2	-1.3	-.1	.4	.5	.2	-.4	-1.2	-.6	.0	.8	1.4	1.1	.5	-.3	-.6	-.6	-.1	.5	.5	.1	-.8	-1.7	-2.5	-2.7	-2.4
.3	1.4	2.6	2.6	2.5	2.2	1.7	1.1	.9	1.1	1.5	2.2	3.0	3.8	4.1	4.1	3.9	3.6	3.8	3.9	4.3	4.5	4.1	3.6	3.3	3.1	3.1	2.8	2.8	2.6	2.0	1.3	.8	.1	-.4	-.1
3.2	3.7	4.3	4.4	4.2	4.0	3.8	3.4	3.3	3.5	4.1	5.1	5.2	5.3	5.4	5.3	5.1	5.1	5.2	5.3	5.2	5.0	5.2	5.6	4.9	4.3	4.7	4.8	4.8	4.4	4.3	4.2	3.7	3.4	3.1	3.0
4.6	4.4	4.5	4.9	5.5	5.8	5.7	5.7	6.2	6.3	5.9	6.3	5.6	5.5	5.5	6.0	6.9	8.3	9.1	9.5	9.5	9.8	10.1	9.7	7.9	8.1	9.8	10.8	10.6	10.2	9.9	9.4	8.6	7.8	5.9	4.9
6.0	5.7	5.6	5.8	6.3	6.8	7.5	8.3	8.6	8.1	7.3	6.9	7.0	7.1	7.5	8.0	8.5	8.9	9.3	9.6	9.8	10.3	10.7	10.9	11.1	11.1	10.9	10.6	10.3	10.1	9.7	9.2	8.7	7.9	6.7	6.2

Figure 29. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS15 (700 hPa)
NOAA15, using all observations



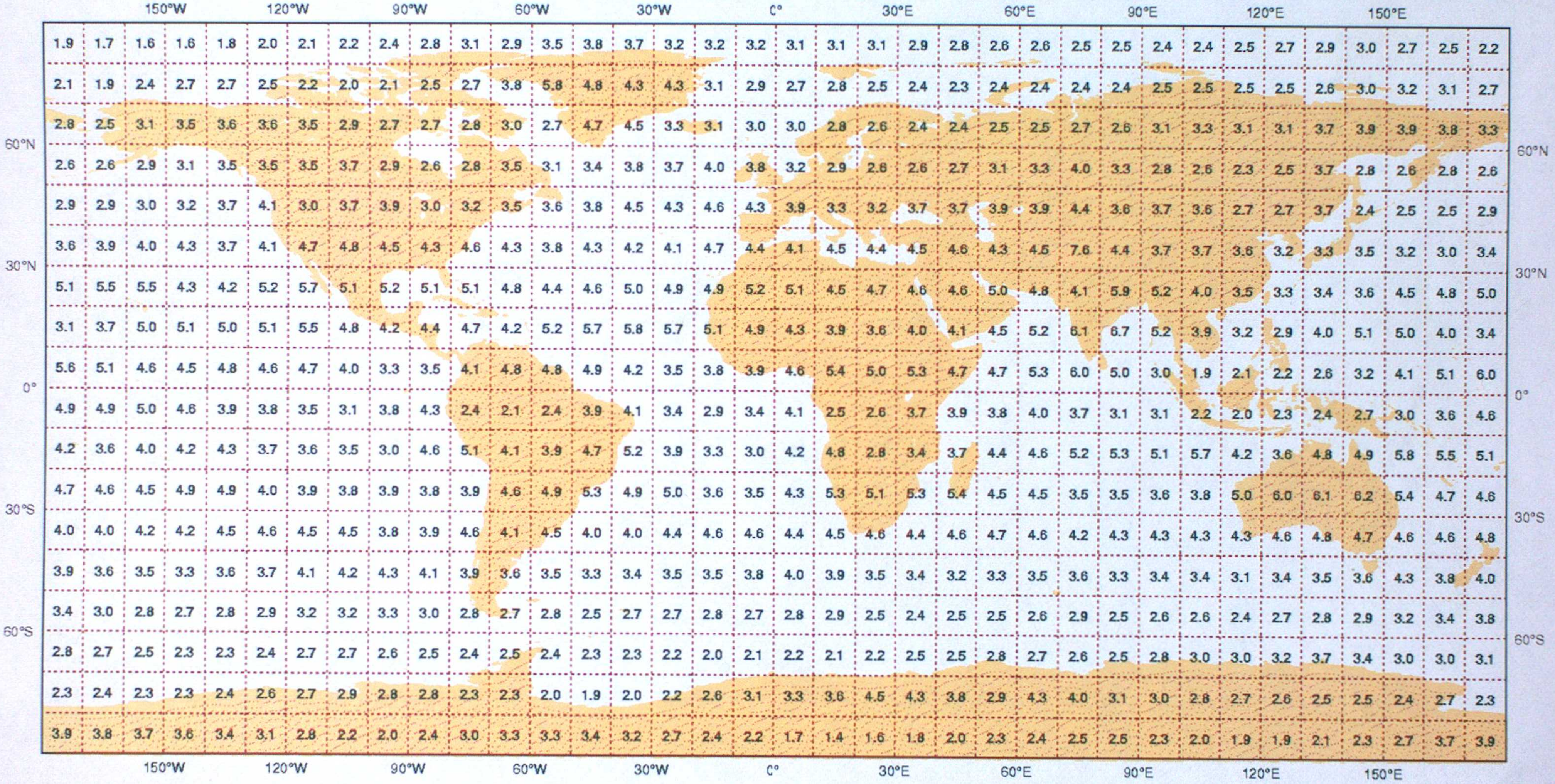
2.3	2.3	2.3	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.7	2.8	2.9	3.0	3.2	3.6	3.9	4.0	4.0	3.9	3.8	3.8	3.7	3.6	3.5	3.4	3.3	3.2	3.0	3.1	3.0	2.9	2.7	2.6	2.4
1.9	2.2	2.5	2.8	3.0	3.0	2.8	2.6	2.6	2.7	2.8	3.2	4.0	3.4	3.2	3.6	3.6	3.4	3.4	3.5	3.4	3.3	3.2	3.0	3.1	3.1	3.1	3.0	3.0	2.9	2.9	2.8	2.8	2.8	2.5	2.2
3.0	3.2	3.5	3.6	3.8	3.9	3.8	3.4	3.5	3.4	3.5	3.9	4.0	4.8	4.9	4.2	4.0	3.7	3.8	3.8	3.5	3.3	3.2	3.6	3.8	3.7	3.2	3.0	2.9	2.8	3.0	3.0	3.0	3.0	2.7	2.8
3.1	3.2	3.3	3.2	3.9	4.0	4.1	3.9	3.7	3.5	3.7	4.3	4.4	4.3	4.0	3.8	3.7	3.5	3.6	3.5	3.5	3.2	3.3	3.9	4.0	4.1	3.4	2.8	2.8	2.2	2.4	3.0	3.0	2.9	3.0	3.1
3.4	3.5	3.5	3.5	3.7	4.1	4.2	4.7	4.5	3.8	4.0	4.4	4.6	4.4	3.8	3.5	3.6	3.4	3.7	3.7	3.8	4.2	3.8	3.9	3.8	3.7	3.4	3.1	3.0	2.5	2.6	3.4	3.1	3.2	3.2	3.2
4.4	4.2	3.8	3.5	3.7	4.0	4.4	4.7	4.4	4.2	4.5	3.8	3.8	3.9	3.7	3.6	3.7	3.7	3.5	3.7	4.4	4.7	4.1	3.6	3.8	5.6	3.5	3.7	4.2	4.1	4.5	4.5	4.7	4.5	4.3	4.4
3.8	3.8	3.7	3.5	3.6	3.7	3.6	3.8	3.8	3.8	3.7	3.6	3.5	3.7	3.6	3.6	3.7	3.6	4.0	3.8	4.2	4.0	3.5	3.9	4.4	3.7	5.2	4.8	3.8	3.9	3.8	3.8	3.7	3.7	3.6	3.7
3.5	3.4	3.5	3.4	3.5	3.5	3.6	3.5	3.7	3.5	3.4	3.5	3.5	3.6	3.5	3.6	3.6	3.7	3.7	3.6	3.8	3.5	3.5	3.5	3.5	3.4	3.4	3.4	3.3	3.4	3.3	3.4	3.4	3.4	3.4	3.4
3.5	3.3	3.4	3.4	3.4	3.4	3.4	3.3	3.4	3.4	3.4	3.4	3.4	3.4	3.5	3.4	3.4	3.5	3.4	3.5	3.5	3.5	3.4	3.4	3.5	3.4	3.4	3.4	3.4	3.4	3.4	3.5	3.4	3.4	3.5	3.3
3.5	3.4	3.4	3.5	3.4	3.4	3.4	3.3	3.3	3.2	3.4	3.4	3.4	3.5	3.5	3.4	3.3	3.4	3.3	3.5	3.4	3.4	3.5	3.4	3.4	3.5	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.5	3.4
3.5	3.4	3.4	3.5	3.6	3.5	3.4	3.4	3.3	3.2	3.3	3.5	3.5	3.4	3.5	3.4	3.3	3.4	3.3	3.7	3.5	3.4	3.5	3.4	3.3	3.5	3.3	3.3	3.3	3.4	3.5	3.5	3.5	3.5	3.5	3.4
3.8	3.6	3.5	3.5	3.5	3.4	3.4	3.5	3.5	3.4	3.4	3.6	3.6	3.5	3.6	3.5	3.4	3.2	3.3	3.8	3.8	3.4	3.6	3.6	3.4	3.5	3.3	3.5	3.5	3.6	3.8	3.8	3.8	3.6	3.6	3.5
3.5	3.5	3.6	3.7	3.7	3.5	3.5	3.6	3.3	3.5	3.8	3.9	3.8	3.9	3.7	3.6	3.4	3.2	3.6	3.8	3.6	3.9	4.1	3.9	3.4	3.3	3.5	3.9	3.6	3.6	4.0	4.2	4.5	3.8	3.6	3.3
3.1	3.2	3.3	3.2	3.3	3.2	3.3	3.4	3.3	3.3	3.7	4.0	3.6	3.5	3.2	3.5	3.8	3.6	3.9	3.6	3.5	3.5	3.5	3.6	3.6	3.5	3.7	3.6	3.1	2.9	3.0	3.1	3.5	3.3	3.2	3.3
3.2	3.3	3.0	2.8	2.6	2.7	3.0	3.0	3.0	3.0	3.2	3.3	3.2	2.7	2.3	2.6	2.8	2.6	2.7	2.7	2.4	2.1	2.1	2.3	2.5	2.5	2.4	2.5	2.4	2.3	2.4	2.7	2.9	2.8	3.3	3.4
2.9	2.6	2.3	2.1	2.1	2.2	2.3	2.4	2.4	2.4	2.5	2.5	2.4	2.0	1.9	2.0	2.3	2.3	2.1	2.1	2.0	2.0	2.1	2.2	2.1	2.1	2.4	2.6	2.7	2.5	2.8	3.0	3.1	3.1	3.3	3.3
2.0	1.8	1.7	1.8	1.9	2.1	2.1	2.2	2.2	2.1	2.0	2.2	2.0	2.0	2.0	2.1	2.3	2.3	2.1	2.1	2.4	2.2	1.8	1.5	2.3	2.3	1.8	1.5	1.4	1.6	1.8	2.0	2.2	2.3	2.5	2.1
2.6	2.5	2.5	2.5	2.3	2.2	2.0	1.8	1.8	1.9	2.2	2.3	2.3	2.3	2.3	2.1	1.9	1.7	1.4	1.2	1.3	1.3	1.2	1.2	1.2	1.3	1.3	1.2	1.1	1.1	1.2	1.4	1.6	1.9	2.4	2.5

Figure 30. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS11 (500 - 700 hPa)
NOAA15, using all observations



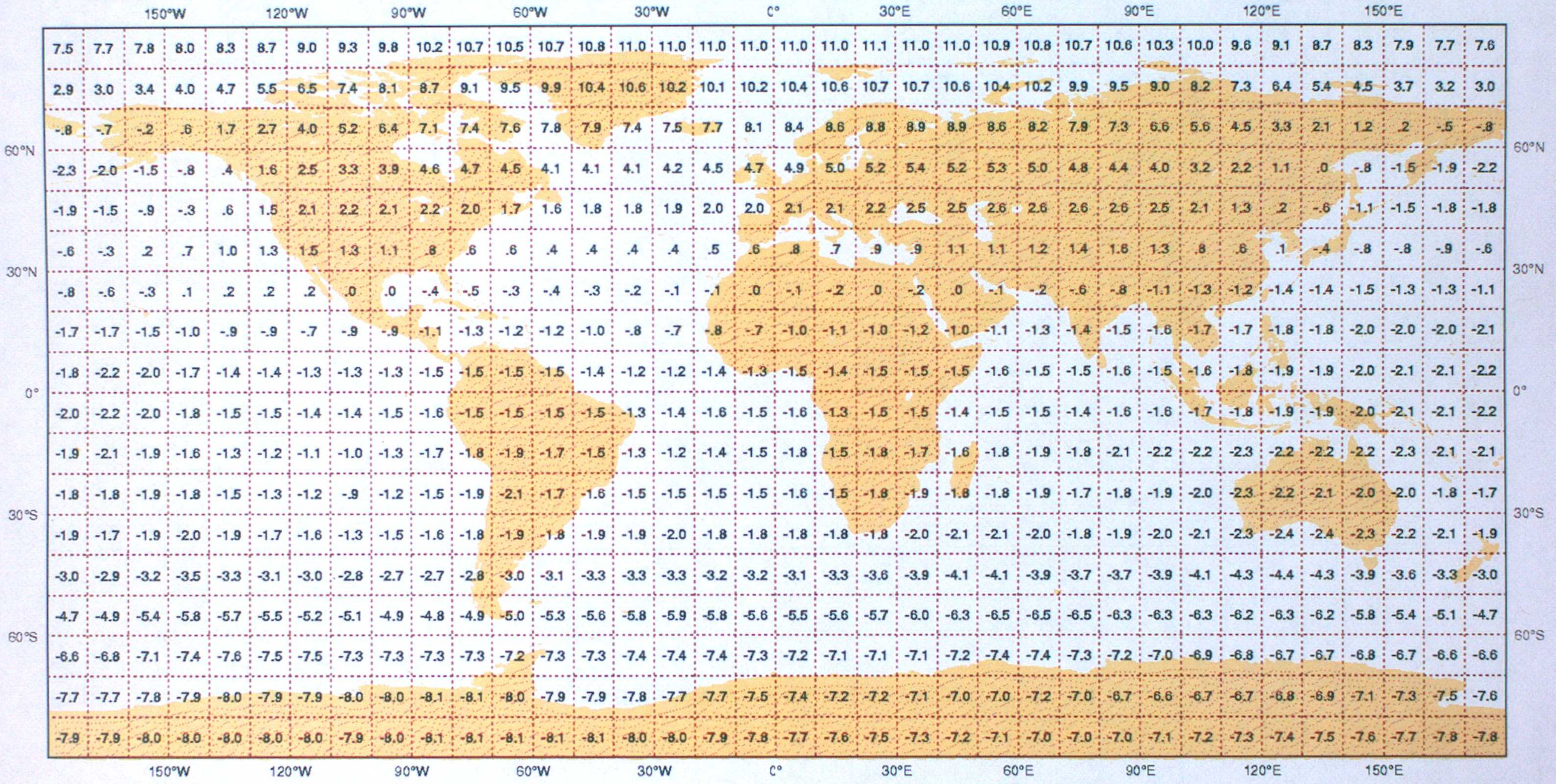
10.0	9.9	9.9	9.8	9.7	9.6	9.5	9.5	9.7	10.1	10.7	9.7	10.3	10.3	10.3	8.3	6.7	5.8	5.2	5.0	5.0	5.2	5.4	5.6	5.8	6.1	6.5	6.9	7.4	7.8	7.9	8.3	8.9	9.3	9.6	10.0
9.0	8.2	7.4	7.1	7.1	7.6	8.6	9.3	9.8	9.7	8.6	8.5	10.6	15.1	15.0	8.7	4.0	2.9	2.2	2.2	2.7	3.1	3.8	4.4	4.8	5.4	6.1	6.8	7.2	7.5	7.6	7.7	8.1	8.6	9.3	9.6
5.5	4.1	4.0	4.1	4.1	4.0	4.5	6.4	7.8	7.9	7.3	6.6	4.7	8.3	4.5	2.8	1.5	1.1	1.4	2.2	2.9	4.0	4.7	5.0	5.4	5.6	6.4	8.0	8.4	9.0	9.4	10.2	10.2	8.8	8.5	7.2
2.0	1.6	1.3	.6	1.1	1.8	2.0	3.1	4.6	5.1	5.8	5.7	2.9	1.4	-.2	-.6	-1.5	-.8	.5	1.4	2.1	3.3	3.4	3.0	3.2	3.4	4.3	7.4	8.3	10.4	10.3	9.9	4.8	4.1	3.6	2.8
.2	.0	-.5	-.9	-1.4	-1.2	1.4	1.9	1.7	2.1	2.3	.9	-.3	-1.5	-2.7	-3.7	-4.5	-3.4	-1.4	.2	.7	.5	-.2	-.7	-.4	.8	3.2	6.2	6.2	7.4	7.1	5.6	3.3	2.2	1.1	.8
-2.9	-2.7	-2.3	-2.5	-2.5	-3.1	-4.0	-4.0	-3.7	-3.2	-3.8	-3.9	-4.0	-4.5	-4.6	-4.8	-5.8	-4.7	-4.1	-3.8	-3.5	-4.3	-4.7	-4.7	-4.4	.0	3.8	3.4	.1	-1.2	-1.2	-1.1	-1.6	-1.5	-2.1	-2.3
-9.3	-9.3	-9.0	-6.5	-6.4	-8.3	-9.2	-8.7	-7.7	-7.9	-8.9	-9.9	-10.2	-10.0	-7.4	-6.2	-6.0	-6.8	-7.8	-8.1	-9.4	-10.1	-9.4	-9.9	-11.9	-12.5	-8.8	-7.3	-7.0	-6.7	-6.6	-6.5	-7.1	-8.7	-9.7	-9.9
-16.8	-15.6	-13.0	-10.3	-9.5	-7.5	-7.6	-8.1	-9.5	-9.2	-10.6	-13.4	-13.2	-11.6	-9.6	-6.4	-5.9	-7.7	-10.5	-12.8	-14.2	-13.1	-14.3	-14.8	-14.4	-11.5	-7.7	-6.3	-5.2	-3.5	-3.7	-6.2	-10.3	-14.7	-17.5	-17.9
-10.4	-12.0	-11.7	-10.4	-9.5	-9.9	-10.0	-10.2	-9.1	-5.8	-5.2	-5.8	-5.4	-5.4	-4.4	-4.3	-6.3	-8.1	-7.4	-7.3	-7.3	-9.8	-12.5	-11.6	-9.8	-7.6	-5.0	-2.3	-1.8	-2.3	-2.5	-2.4	-3.4	-4.6	-6.5	-8.8
-9.0	-10.5	-11.8	-12.7	-13.8	-14.2	-14.1	-14.2	-12.4	-7.1	-1.8	-1.5	-1.8	-4.6	-8.7	-10.6	-11.1	-10.6	-7.1	-1.9	-2.9	-6.7	-7.7	-5.1	-5.2	-3.6	-2.9	-2.7	-1.7	-1.5	-2.1	-2.1	-3.0	-3.7	-5.4	-7.4
-4.0	-4.1	-5.7	-6.8	-9.2	-11.0	-11.8	-12.7	-14.4	-12.1	-5.6	-4.7	-4.1	-3.9	-9.1	-12.3	-13.3	-13.6	-12.2	-4.8	-3.1	-4.6	-6.0	-10.4	-10.8	-10.5	-11.0	-13.0	-9.4	-5.4	-4.2	-5.7	-8.6	-9.9	-8.5	-5.8
-8.2	-6.8	-6.3	-5.8	-4.5	-4.0	-5.8	-7.9	-9.2	-12.4	-13.3	-8.8	-7.9	-7.7	-5.5	-8.6	-11.7	-12.8	-13.1	-11.3	-7.6	-6.1	-6.4	-6.6	-9.4	-11.8	-13.2	-13.8	-14.0	-12.3	-9.0	-7.6	-9.1	-10.5	-10.3	-9.3
-4.8	-5.7	-5.5	-5.2	-5.0	-4.5	-4.2	-4.8	-5.1	-6.0	-9.3	-6.4	-5.9	-5.3	-4.9	-4.2	-5.2	-7.3	-8.5	-8.8	-7.5	-6.2	-6.0	-6.1	-6.0	-6.5	-7.3	-7.2	-6.9	-6.9	-7.0	-6.8	-7.2	-7.4	-5.9	-5.1
-3.6	-3.1	-2.3	-1.9	-2.2	-2.8	-3.4	-3.5	-3.8	-3.6	-3.2	-2.2	-1.5	-1.1	-1.6	-1.8	-1.8	-2.2	-2.2	-2.0	-1.3	-.7	-.8	-1.2	-1.9	-2.2	-1.8	-1.6	-1.4	-.9	-1.5	-1.8	-2.2	-3.6	-2.9	-2.9
-1.4	-.8	-.1	.6	.5	.2	-.2	-.6	-.8	-.7	.2	.8	1.0	1.3	1.4	1.2	1.1	1.1	1.4	1.3	1.3	1.5	1.4	1.3	1.2	.8	1.0	.8	.6	.9	.2	.0	-.6	-1.2	-1.7	-2.0
.9	1.2	1.5	1.8	1.9	1.8	1.5	1.2	1.3	1.5	1.4	2.3	2.3	2.5	2.4	2.8	3.1	3.2	2.7	2.8	2.2	1.7	2.0	3.2	2.4	1.9	2.8	3.2	2.8	2.1	2.2	1.9	.4	.3	.5	.8
2.0	1.5	1.5	1.8	2.9	3.7	3.6	3.3	4.0	3.7	3.1	4.1	3.0	2.7	2.8	3.5	4.8	7.3	9.0	9.9	10.0	10.6	11.4	10.6	6.7	7.4	10.8	12.8	12.2	11.2	10.6	9.3	7.8	6.4	3.5	2.4
3.6	2.9	2.2	2.5	3.4	4.5	5.9	7.5	8.0	6.4	4.5	3.8	4.0	4.2	5.1	6.2	7.3	8.3	9.2	9.8	10.4	11.5	12.7	13.3	13.8	13.8	13.3	12.6	11.8	11.2	10.4	9.3	8.2	6.8	4.8	4.0

Figure 31. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS11 (500 - 700 hPa)
NOAA15, using all observations



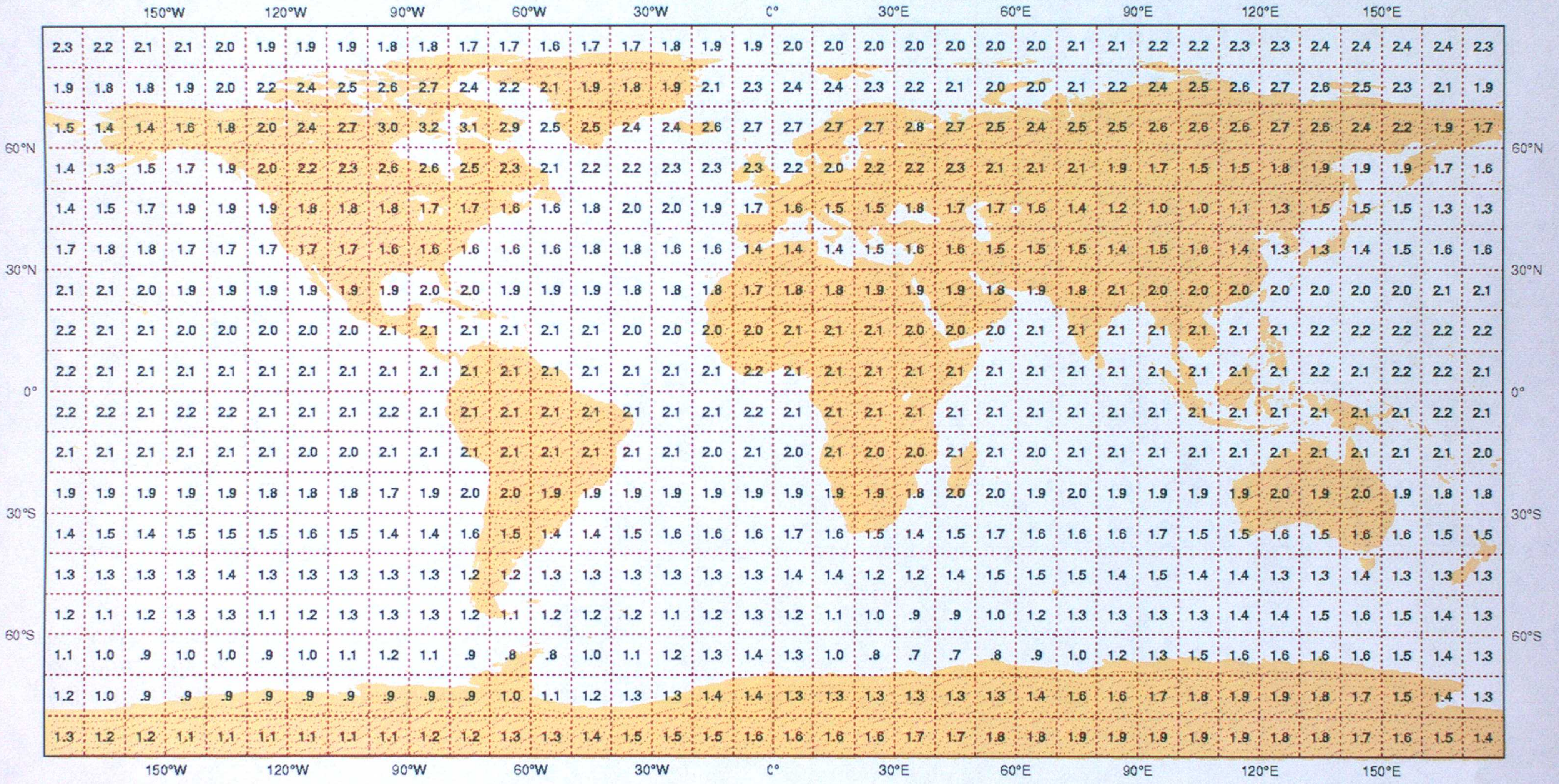
1.9	1.7	1.6	1.6	1.8	2.0	2.1	2.2	2.4	2.8	3.1	2.9	3.5	3.8	3.7	3.2	3.2	3.2	3.1	3.1	3.1	2.9	2.8	2.6	2.6	2.5	2.5	2.4	2.4	2.5	2.7	2.9	3.0	2.7	2.5	2.2
2.1	1.9	2.4	2.7	2.7	2.5	2.2	2.0	2.1	2.5	2.7	3.8	5.8	4.8	4.3	4.3	3.1	2.9	2.7	2.8	2.5	2.4	2.3	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.6	3.0	3.2	3.1	2.7
2.8	2.5	3.1	3.5	3.6	3.6	3.5	2.9	2.7	2.7	2.8	3.0	2.7	4.7	4.5	3.3	3.1	3.0	3.0	2.8	2.6	2.4	2.4	2.5	2.5	2.7	2.6	3.1	3.3	3.1	3.1	3.7	3.9	3.9	3.8	3.3
2.6	2.6	2.9	3.1	3.5	3.5	3.5	3.7	2.9	2.6	2.8	3.5	3.1	3.4	3.8	3.7	4.0	3.8	3.2	2.9	2.6	2.6	2.7	3.1	3.3	4.0	3.3	2.8	2.6	2.3	2.5	3.7	2.8	2.6	2.8	2.6
2.9	2.9	3.0	3.2	3.7	4.1	3.0	3.7	3.9	3.0	3.2	3.5	3.6	3.8	4.5	4.3	4.6	4.3	3.9	3.3	3.2	3.7	3.7	3.9	3.9	4.4	3.6	3.7	3.6	2.7	2.7	3.7	2.4	2.5	2.5	2.9
3.6	3.9	4.0	4.3	3.7	4.1	4.7	4.8	4.5	4.3	4.6	4.3	3.8	4.3	4.2	4.1	4.7	4.4	4.1	4.5	4.4	4.5	4.6	4.3	4.5	7.6	4.4	3.7	3.7	3.6	3.2	3.3	3.5	3.2	3.0	3.4
5.1	5.5	5.5	4.3	4.2	5.2	5.7	5.1	5.2	5.1	5.1	4.8	4.4	4.6	5.0	4.9	4.9	5.2	5.1	4.5	4.7	4.6	4.6	5.0	4.8	4.1	5.9	5.2	4.0	3.5	3.3	3.4	3.6	4.5	4.8	5.0
3.1	3.7	5.0	5.1	5.0	5.1	5.5	4.8	4.2	4.4	4.7	4.2	5.2	5.7	5.8	5.7	5.1	4.9	4.3	3.9	3.6	4.0	4.1	4.5	5.2	6.1	6.7	5.2	3.9	3.2	2.9	4.0	5.1	5.0	4.0	3.4
5.6	5.1	4.6	4.5	4.8	4.6	4.7	4.0	3.3	3.5	4.1	4.8	4.8	4.9	4.2	3.5	3.8	3.9	4.6	5.4	5.0	5.3	4.7	4.7	5.3	6.0	5.0	3.0	1.9	2.1	2.2	2.6	3.2	4.1	5.1	6.0
4.9	4.9	5.0	4.6	3.9	3.8	3.5	3.1	3.8	4.3	2.4	2.1	2.4	3.9	4.1	3.4	2.9	3.4	4.1	2.5	2.6	3.7	3.9	3.8	4.0	3.7	3.1	3.1	2.2	2.0	2.3	2.4	2.7	3.0	3.6	4.6
4.2	3.6	4.0	4.2	4.3	3.7	3.6	3.5	3.0	4.6	5.1	4.1	3.9	4.7	5.2	3.9	3.3	3.0	4.2	4.8	2.8	3.4	3.7	4.4	4.6	5.2	5.3	5.1	5.7	4.2	3.6	4.8	4.9	5.8	5.5	5.1
4.7	4.6	4.5	4.9	4.9	4.0	3.9	3.8	3.9	3.8	3.9	4.6	4.9	5.3	4.9	5.0	3.6	3.5	4.3	5.3	5.1	5.3	5.4	4.5	4.5	3.5	3.5	3.6	3.8	5.0	6.0	6.1	6.2	5.4	4.7	4.6
4.0	4.0	4.2	4.2	4.5	4.6	4.5	4.5	3.8	3.9	4.6	4.1	4.5	4.0	4.0	4.4	4.6	4.6	4.4	4.5	4.6	4.4	4.6	4.7	4.6	4.2	4.3	4.3	4.3	4.3	4.6	4.8	4.7	4.6	4.6	4.8
3.9	3.6	3.5	3.3	3.6	3.7	4.1	4.2	4.3	4.1	3.9	3.6	3.5	3.3	3.4	3.5	3.5	3.8	4.0	3.9	3.5	3.4	3.2	3.3	3.5	3.6	3.3	3.4	3.4	3.1	3.4	3.5	3.6	4.3	3.8	4.0
3.4	3.0	2.8	2.7	2.8	2.9	3.2	3.2	3.3	3.0	2.8	2.7	2.8	2.5	2.7	2.7	2.8	2.7	2.8	2.9	2.5	2.4	2.5	2.5	2.6	2.9	2.5	2.6	2.6	2.4	2.7	2.8	2.9	3.2	3.4	3.8
2.8	2.7	2.5	2.3	2.3	2.4	2.7	2.7	2.6	2.5	2.4	2.5	2.4	2.3	2.3	2.2	2.0	2.1	2.2	2.1	2.2	2.5	2.5	2.8	2.7	2.6	2.5	2.8	3.0	3.0	3.2	3.7	3.4	3.0	3.0	3.1
2.3	2.4	2.3	2.3	2.4	2.6	2.7	2.9	2.8	2.8	2.3	2.3	2.0	1.9	2.0	2.2	2.6	3.1	3.3	3.6	4.5	4.3	3.8	2.9	4.3	4.0	3.1	3.0	2.8	2.7	2.6	2.5	2.5	2.4	2.7	2.3
3.9	3.8	3.7	3.6	3.4	3.1	2.8	2.2	2.0	2.4	3.0	3.3	3.3	3.4	3.2	2.7	2.4	2.2	1.7	1.4	1.6	1.8	2.0	2.3	2.4	2.5	2.5	2.3	2.0	1.9	1.9	2.1	2.3	2.7	3.7	3.9

Figure 32. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS4 (400 hPa)
NOAA15, using all observations



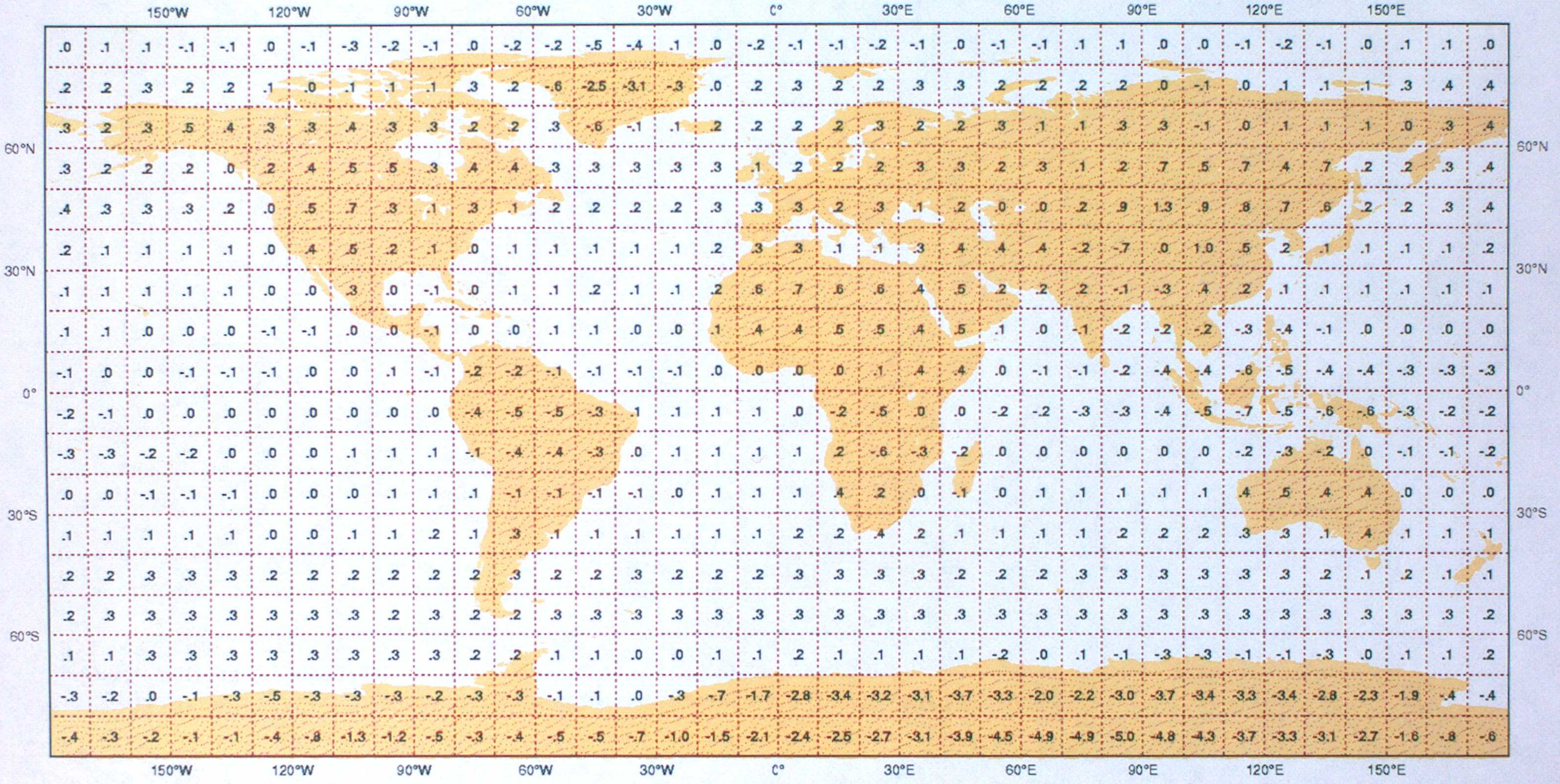
7.5	7.7	7.8	8.0	8.3	8.7	9.0	9.3	9.8	10.2	10.7	10.5	10.7	10.8	11.0	11.0	11.0	11.0	11.0	11.0	11.1	11.0	11.0	10.9	10.8	10.7	10.6	10.3	10.0	9.6	9.1	8.7	8.3	7.9	7.7	7.6
2.9	3.0	3.4	4.0	4.7	5.5	6.5	7.4	8.1	8.7	9.1	9.5	9.9	10.4	10.6	10.2	10.1	10.2	10.4	10.6	10.7	10.7	10.6	10.4	10.2	9.9	9.5	9.0	8.2	7.3	6.4	5.4	4.5	3.7	3.2	3.0
-.8	-.7	-.2	.6	1.7	2.7	4.0	5.2	6.4	7.1	7.4	7.6	7.8	7.9	7.4	7.5	7.7	8.1	8.4	8.6	8.8	8.9	8.9	8.6	8.2	7.9	7.3	6.6	5.6	4.5	3.3	2.1	1.2	.2	-.5	-.8
-2.3	-2.0	-1.5	-.8	.4	1.6	2.5	3.3	3.9	4.6	4.7	4.5	4.1	4.1	4.1	4.2	4.5	4.7	4.9	5.0	5.2	5.4	5.2	5.3	5.0	4.8	4.4	4.0	3.2	2.2	1.1	.0	-.8	-1.5	-1.9	-2.2
-1.9	-1.5	-.9	-.3	.6	1.5	2.1	2.2	2.1	2.2	2.0	1.7	1.6	1.8	1.8	1.9	2.0	2.0	2.1	2.1	2.2	2.5	2.5	2.6	2.6	2.6	2.6	2.5	2.1	1.3	.2	-.6	-1.1	-1.5	-1.8	-1.8
-.6	-.3	.2	.7	1.0	1.3	1.5	1.3	1.1	.8	.6	.6	.4	.4	.4	.4	.5	.6	.8	.7	.9	.9	1.1	1.1	1.2	1.4	1.6	1.3	.8	.6	.1	-.4	-.8	-.8	-.9	-.6
-.8	-.6	-.3	.1	.2	.2	.2	.0	.0	-.4	-.5	-.3	-.4	-.3	-.2	-.1	-.1	.0	-.1	-.2	.0	-.2	.0	-.1	-.2	-.6	-.8	-1.1	-1.3	-1.2	-1.4	-1.4	-1.5	-1.3	-1.3	-1.1
-1.7	-1.7	-1.5	-1.0	-.9	-.9	-.7	-.9	-.9	-1.1	-1.3	-1.2	-1.2	-1.0	-.8	-.7	-.8	-.7	-1.0	-1.1	-1.0	-1.2	-1.0	-1.1	-1.3	-1.4	-1.5	-1.6	-1.7	-1.7	-1.8	-1.8	-2.0	-2.0	-2.0	-2.1
-1.8	-2.2	-2.0	-1.7	-1.4	-1.4	-1.3	-1.3	-1.3	-1.5	-1.5	-1.5	-1.5	-1.4	-1.2	-1.2	-1.4	-1.3	-1.5	-1.4	-1.5	-1.5	-1.5	-1.6	-1.5	-1.5	-1.6	-1.5	-1.6	-1.8	-1.9	-1.9	-2.0	-2.1	-2.1	-2.2
-2.0	-2.2	-2.0	-1.8	-1.5	-1.5	-1.4	-1.4	-1.5	-1.6	-1.5	-1.5	-1.5	-1.5	-1.3	-1.4	-1.6	-1.5	-1.6	-1.3	-1.5	-1.5	-1.4	-1.5	-1.5	-1.4	-1.6	-1.6	-1.7	-1.8	-1.9	-1.9	-2.0	-2.1	-2.1	-2.2
-1.9	-2.1	-1.9	-1.6	-1.3	-1.2	-1.1	-1.0	-1.3	-1.7	-1.8	-1.9	-1.7	-1.5	-1.3	-1.2	-1.4	-1.5	-1.8	-1.5	-1.8	-1.7	-1.6	-1.8	-1.9	-1.8	-2.1	-2.2	-2.2	-2.3	-2.2	-2.2	-2.2	-2.3	-2.1	-2.1
-1.8	-1.8	-1.9	-1.8	-1.5	-1.3	-1.2	-.9	-1.2	-1.5	-1.9	-2.1	-1.7	-1.6	-1.5	-1.5	-1.5	-1.5	-1.6	-1.5	-1.8	-1.9	-1.8	-1.8	-1.9	-1.7	-1.8	-1.9	-2.0	-2.3	-2.2	-2.1	-2.0	-2.0	-1.8	-1.7
-1.9	-1.7	-1.9	-2.0	-1.9	-1.7	-1.6	-1.3	-1.5	-1.6	-1.8	-1.9	-1.8	-1.9	-1.9	-2.0	-1.8	-1.8	-1.8	-1.8	-1.8	-2.0	-2.1	-2.1	-2.0	-1.8	-1.9	-2.0	-2.1	-2.3	-2.4	-2.4	-2.3	-2.2	-2.1	-1.9
-3.0	-2.9	-3.2	-3.5	-3.3	-3.1	-3.0	-2.8	-2.7	-2.7	-2.8	-3.0	-3.1	-3.3	-3.3	-3.3	-3.2	-3.2	-3.1	-3.3	-3.6	-3.9	-4.1	-4.1	-3.9	-3.7	-3.7	-3.9	-4.1	-4.3	-4.4	-4.3	-3.9	-3.6	-3.3	-3.0
-4.7	-4.9	-5.4	-5.8	-5.7	-5.5	-5.2	-5.1	-4.9	-4.8	-4.9	-5.0	-5.3	-5.6	-5.8	-5.9	-5.8	-5.6	-5.5	-5.6	-5.7	-6.0	-6.3	-6.5	-6.5	-6.5	-6.3	-6.3	-6.3	-6.2	-6.3	-6.2	-5.8	-5.4	-5.1	-4.7
-6.6	-6.8	-7.1	-7.4	-7.6	-7.5	-7.5	-7.3	-7.3	-7.3	-7.3	-7.2	-7.3	-7.3	-7.4	-7.4	-7.4	-7.3	-7.2	-7.1	-7.1	-7.1	-7.2	-7.4	-7.4	-7.3	-7.2	-7.0	-6.9	-6.8	-6.7	-6.7	-6.8	-6.7	-6.6	-6.6
-7.7	-7.7	-7.8	-7.9	-8.0	-7.9	-7.9	-8.0	-8.0	-8.1	-8.1	-8.0	-7.9	-7.9	-7.8	-7.7	-7.7	-7.5	-7.4	-7.2	-7.2	-7.1	-7.0	-7.0	-7.2	-7.0	-6.7	-6.6	-6.7	-6.7	-6.8	-6.9	-7.1	-7.3	-7.5	-7.6
-7.9	-7.9	-8.0	-8.0	-8.0	-8.0	-8.0	-7.9	-8.0	-8.1	-8.1	-8.1	-8.1	-8.1	-8.0	-8.0	-7.9	-7.8	-7.7	-7.6	-7.5	-7.3	-7.2	-7.1	-7.0	-7.0	-7.0	-7.1	-7.2	-7.3	-7.4	-7.5	-7.6	-7.7	-7.8	-7.8

Figure 33. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS4 (400 hPa)
NOAA15, using all observations



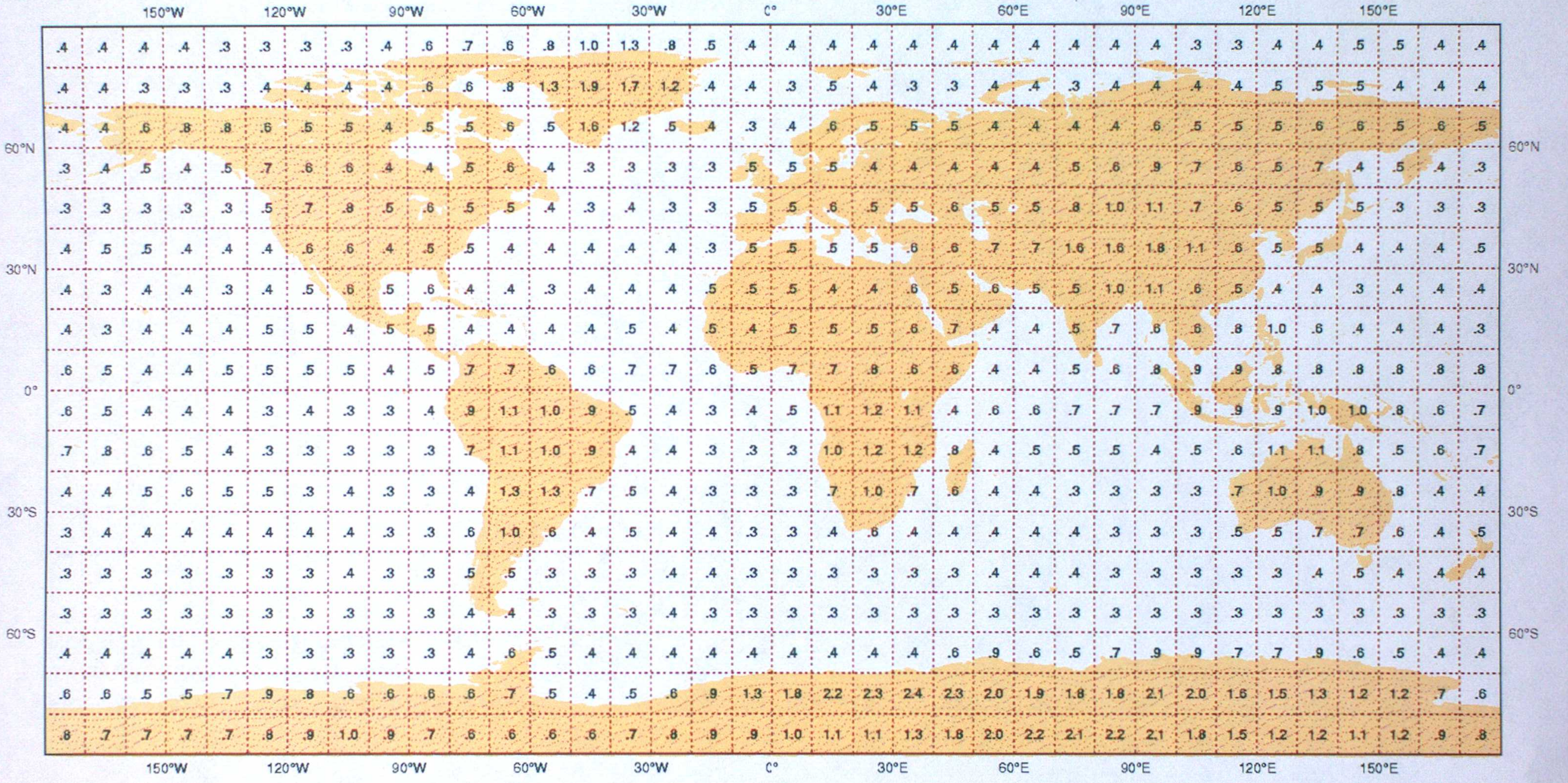
2.3	2.2	2.1	2.1	2.0	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.6	1.7	1.7	1.8	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.4	2.4	2.4	2.4	2.3
1.9	1.8	1.8	1.9	2.0	2.2	2.4	2.5	2.6	2.7	2.4	2.2	2.1	1.9	1.8	1.9	2.1	2.3	2.4	2.4	2.3	2.2	2.1	2.0	2.0	2.1	2.2	2.4	2.5	2.6	2.7	2.6	2.5	2.3	2.1	1.9
1.5	1.4	1.4	1.6	1.8	2.0	2.4	2.7	3.0	3.2	3.1	2.9	2.5	2.5	2.4	2.4	2.6	2.7	2.7	2.7	2.7	2.8	2.7	2.5	2.4	2.5	2.5	2.6	2.6	2.6	2.7	2.6	2.4	2.2	1.9	1.7
1.4	1.3	1.5	1.7	1.9	2.0	2.2	2.3	2.6	2.6	2.5	2.3	2.1	2.2	2.2	2.3	2.3	2.3	2.2	2.0	2.2	2.2	2.3	2.1	2.1	2.1	1.9	1.7	1.5	1.5	1.8	1.9	1.9	1.9	1.7	1.6
1.4	1.5	1.7	1.9	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.6	1.6	1.8	2.0	2.0	1.9	1.7	1.6	1.5	1.5	1.8	1.7	1.7	1.6	1.4	1.2	1.0	1.0	1.1	1.3	1.5	1.5	1.5	1.3	1.3
1.7	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.8	1.8	1.6	1.6	1.4	1.4	1.4	1.5	1.6	1.6	1.5	1.5	1.5	1.4	1.5	1.6	1.4	1.3	1.3	1.4	1.5	1.6	1.6
2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.7	1.8	1.8	1.9	1.9	1.9	1.8	1.9	1.8	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1
2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2
2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.1
2.2	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1
2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.1	2.0	2.0	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0
1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.7	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	2.0	2.0	1.9	2.0	1.9	1.9	1.9	1.9	2.0	1.9	2.0	1.9	1.8	1.8
1.4	1.5	1.4	1.5	1.5	1.5	1.6	1.5	1.4	1.4	1.6	1.5	1.4	1.4	1.5	1.6	1.6	1.6	1.7	1.6	1.5	1.4	1.5	1.7	1.6	1.6	1.6	1.7	1.5	1.5	1.6	1.5	1.6	1.6	1.5	1.5
1.3	1.3	1.3	1.3	1.4	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.2	1.2	1.4	1.5	1.5	1.5	1.4	1.5	1.4	1.4	1.3	1.3	1.4	1.3	1.3	1.3
1.2	1.1	1.2	1.3	1.3	1.1	1.2	1.3	1.3	1.3	1.2	1.1	1.2	1.2	1.2	1.1	1.2	1.3	1.2	1.1	1.0	.9	.9	1.0	1.2	1.3	1.3	1.3	1.3	1.4	1.4	1.5	1.6	1.5	1.4	1.3
1.1	1.0	.9	1.0	1.0	.9	1.0	1.1	1.2	1.1	.9	.8	.8	1.0	1.1	1.2	1.3	1.4	1.3	1.0	.8	.7	.7	.8	.9	1.0	1.2	1.3	1.5	1.6	1.6	1.6	1.6	1.5	1.4	1.3
1.2	1.0	.9	.9	.9	.9	.9	.9	.9	.9	.9	1.0	1.1	1.2	1.3	1.3	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.6	1.6	1.7	1.8	1.9	1.9	1.8	1.7	1.5	1.4	1.3
1.3	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.6	1.5	1.4

Figure 34. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: AMSUA-5 (700 hPa)
NOAA15, using all observations



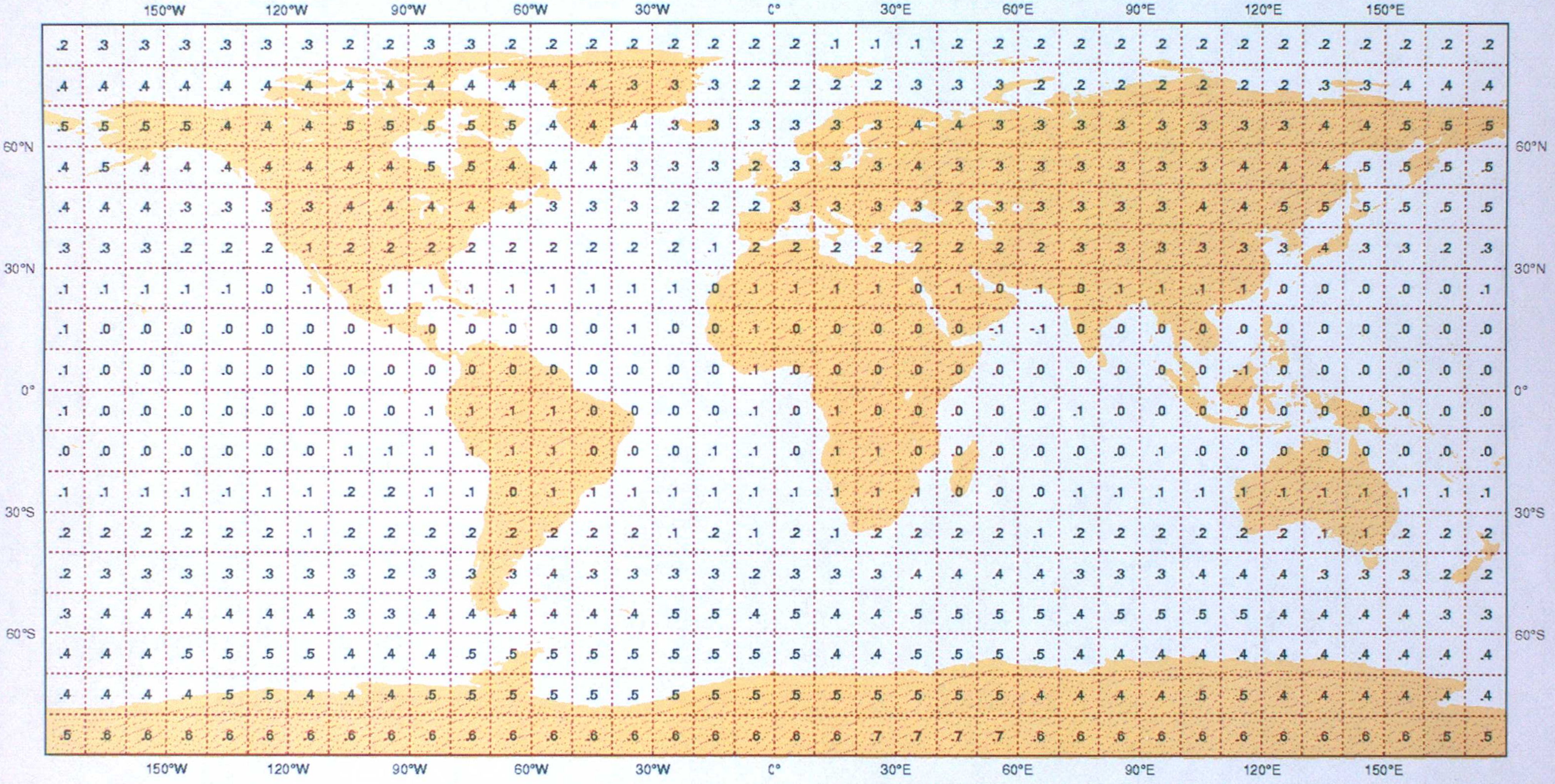
.0	.1	.1	-.1	-.1	.0	-.1	-.3	-.2	-.1	.0	-.2	-.2	-.5	-.4	.1	.0	-.2	-.1	-.1	-.2	-.1	.0	-.1	-.1	.1	.1	.0	.0	-.1	-.2	-.1	.0	.1	.1	.0
.2	.2	.3	.2	.2	.1	.0	.1	.1	.1	.3	.2	-.6	-2.5	-3.1	-.3	.0	.2	.3	.2	.2	.3	.3	.2	.2	.2	.2	.0	-.1	.0	.1	.1	.1	.3	.4	.4
.3	.2	.3	.5	.4	.3	.3	.4	.3	.3	.2	.2	.3	-.6	-.1	.1	.2	.2	.2	.2	.3	.2	.2	.3	.1	.1	.3	.3	-.1	.0	.1	.1	.1	.0	.3	.4
.3	.2	.2	.2	.0	.2	.4	.5	.5	.3	.4	.4	.3	.3	.3	.3	.3	.1	.2	.2	.2	.3	.3	.2	.3	.1	.2	.7	.5	.7	.4	.7	.2	.2	.3	.4
.4	.3	.3	.3	.2	.0	.5	.7	.3	.1	.3	.1	.2	.2	.2	.2	.3	.3	.3	.2	.3	.1	.2	.0	.0	.2	.9	1.3	.9	.8	.7	.6	.2	.2	.3	.4
.2	.1	.1	.1	.1	.0	.4	.5	.2	.1	.0	.1	.1	.1	.1	.1	.2	.3	.3	.1	.1	.3	.4	.4	.4	-.2	-.7	.0	1.0	.5	.2	.1	.1	.1	.1	.2
.1	.1	.1	.1	.1	.0	.0	.3	.0	-.1	.0	.1	.1	.2	.1	.1	.2	.6	.7	.6	.6	.4	.5	.2	.2	.2	-.1	-.3	.4	.2	.1	.1	.1	.1	.1	.1
.1	.1	.0	.0	.0	-.1	-.1	.0	.0	-.1	.0	.0	.1	.1	.0	.0	.1	.4	.4	.5	.5	.4	.5	.1	.0	-.1	-.2	-.2	-.2	-.3	-.4	-.1	.0	.0	.0	.0
-.1	.0	.0	-.1	-.1	-.1	.0	.0	.1	-.1	-.2	-.2	-.1	-.1	-.1	-.1	.0	.0	.0	.0	.1	.4	.4	.0	-.1	-.1	-.2	-.4	-.4	-.6	-.5	-.4	-.4	-.3	-.3	-.3
-.2	-.1	.0	.0	.0	.0	.0	.0	.0	.0	-.4	-.5	-.5	-.3	.1	.1	.1	.1	.0	-.2	-.5	.0	.0	-.2	-.2	-.3	-.3	-.4	-.5	-.7	-.5	-.6	-.6	-.3	-.2	-.2
-.3	-.3	-.2	-.2	.0	.0	.0	.1	.1	.1	-.1	-.4	-.4	-.3	.0	.1	.1	.1	.1	.2	-.6	-.3	-.2	.0	.0	.0	.0	.0	.0	-.2	-.3	-.2	.0	-.1	-.1	-.2
.0	.0	-.1	-.1	-.1	.0	.0	.0	.1	.1	.1	-.1	-.1	-.1	-.1	.0	.1	.1	.1	.4	.2	.0	-.1	.0	.1	.1	.1	.1	.1	.4	.5	.4	.4	.0	.0	.0
.1	.1	.1	.1	.1	.0	.0	.1	.1	.2	.1	.3	.1	.1	.1	.1	.1	.1	.2	.2	.4	.2	.1	.1	.1	.1	.2	.2	.2	.3	.3	.1	.4	.1	.1	.1
.2	.2	.3	.3	.3	.2	.2	.2	.2	.2	.2	.3	.2	.2	.3	.2	.2	.2	.3	.3	.3	.3	.2	.2	.2	.3	.3	.3	.3	.3	.3	.2	.1	.2	.1	.1
.2	.3	.3	.3	.3	.3	.3	.3	.2	.3	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2
.1	.1	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.1	.1	.0	.0	.1	.1	.2	.1	.1	.1	.1	-.2	.0	.1	-.1	-.3	-.3	-.1	-.1	-.3	.0	.1	.1	.2
-.3	-.2	.0	-.1	-.3	-.5	-.3	-.3	-.3	-.2	-.3	-.3	-.1	.1	.0	-.3	-.7	-1.7	-2.8	-3.4	-3.2	-3.1	-3.7	-3.3	-2.0	-2.2	-3.0	-3.7	-3.4	-3.3	-3.4	-2.8	-2.3	-1.9	-.4	-.4
-.4	-.3	-.2	-.1	-.1	-.4	-.8	-1.3	-1.2	-.5	-.3	-.4	-.5	-.5	-.7	-1.0	-1.5	-2.1	-2.4	-2.5	-2.7	-3.1	-3.9	-4.5	-4.9	-4.9	-5.0	-4.8	-4.3	-3.7	-3.3	-3.1	-2.7	-1.6	-.8	-.6

Figure 35. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: AMSUA-5 (700 hPa)
NOAA15, using all observations



.4	.4	.4	.4	.3	.3	.3	.3	.4	.6	.7	.6	.8	1.0	1.3	.8	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.4	.4	.5	.5	.4	.4
.4	.4	.3	.3	.3	.4	.4	.4	.4	.6	.6	.8	1.3	1.9	1.7	1.2	.4	.4	.3	.5	.4	.3	.3	.4	.4	.3	.4	.4	.4	.4	.5	.5	.5	.4	.4	.4
.4	.4	.6	.8	.8	.6	.5	.5	.4	.5	.5	.6	.5	1.6	1.2	.5	.4	.3	.4	.6	.5	.5	.5	.4	.4	.4	.4	.6	.5	.5	.5	.6	.6	.5	.6	.5
.3	.4	.5	.4	.5	.7	.6	.6	.4	.4	.5	.6	.4	.3	.3	.3	.3	.5	.5	.5	.4	.4	.4	.4	.4	.5	.6	.9	.7	.6	.5	.7	.4	.5	.4	.3
.3	.3	.3	.3	.3	.5	.7	.8	.5	.6	.5	.5	.4	.3	.4	.3	.3	.5	.5	.6	.5	.5	.6	.5	.5	.8	1.0	1.1	.7	.6	.5	.5	.5	.3	.3	.3
.4	.5	.5	.4	.4	.4	.6	.6	.4	.5	.5	.4	.4	.4	.4	.4	.3	.5	.5	.5	.5	.6	.6	.7	.7	1.6	1.6	1.8	1.1	.6	.5	.5	.4	.4	.4	.5
.4	.3	.4	.4	.3	.4	.5	.6	.5	.6	.4	.4	.3	.4	.4	.4	.5	.5	.5	.4	.4	.6	.5	.6	.5	.5	1.0	1.1	.6	.5	.4	.4	.3	.4	.4	.4
.4	.3	.4	.4	.4	.5	.5	.4	.5	.5	.4	.4	.4	.4	.5	.4	.5	.4	.5	.5	.5	.6	.7	.4	.4	.5	.7	.6	.6	.8	1.0	.6	.4	.4	.4	.3
.6	.5	.4	.4	.5	.5	.5	.5	.4	.5	.7	.7	.6	.6	.7	.7	.6	.5	.7	.7	.8	.6	.6	.4	.4	.5	.6	.8	.9	.9	.8	.8	.8	.8	.8	.8
.6	.5	.4	.4	.4	.3	.4	.3	.3	.4	.9	1.1	1.0	.9	.5	.4	.3	.4	.5	1.1	1.2	1.1	.4	.6	.6	.7	.7	.7	.9	.9	.9	1.0	1.0	.8	.6	.7
.7	.8	.6	.5	.4	.3	.3	.3	.3	.3	.7	1.1	1.0	.9	.4	.4	.3	.3	.3	1.0	1.2	1.2	.8	.4	.5	.5	.5	.4	.5	.6	1.1	1.1	.8	.5	.6	.7
.4	.4	.5	.6	.5	.5	.3	.4	.3	.3	.4	1.3	1.3	.7	.5	.4	.3	.3	.3	.7	1.0	.7	.6	.4	.4	.3	.3	.3	.3	.7	1.0	.9	.9	.8	.4	.4
.3	.4	.4	.4	.4	.4	.4	.4	.3	.3	.6	1.0	.6	.4	.5	.4	.4	.3	.3	.4	.6	.4	.4	.4	.4	.4	.3	.3	.3	.5	.5	.7	.7	.6	.4	.5
.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.5	.5	.3	.3	.3	.4	.4	.3	.3	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.3	.3	.4	.5	.4	.4	.4
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.4	.6	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.6	.9	.6	.5	.7	.9	.9	.7	.7	.9	.6	.5	.4	.4
.6	.6	.5	.5	.7	.9	.8	.6	.6	.6	.6	.7	.5	.4	.5	.6	.9	1.3	1.8	2.2	2.3	2.4	2.3	2.0	1.9	1.8	1.8	2.1	2.0	1.6	1.5	1.3	1.2	1.2	.7	.6
.8	.7	.7	.7	.7	.8	.9	1.0	.9	.7	.6	.6	.6	.6	.7	.8	.9	.9	1.0	1.1	1.1	1.3	1.8	2.0	2.2	2.1	2.2	2.1	1.8	1.5	1.2	1.2	1.1	1.2	.9	.8

Figure 36. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: AMSUA-7 (300 hPa)
NOAA15, using all observations



.2	.3	.3	.3	.3	.3	.3	.2	.2	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.2	.2	.2	.2	.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.3	.3	.4	.4	.4
.5	.5	.5	.5	.4	.4	.4	.5	.5	.5	.5	.5	.4	.4	.4	.3	.3	.3	.3	.3	.3	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.5	.5	.5
.4	.5	.4	.4	.4	.4	.4	.4	.4	.5	.5	.4	.4	.4	.3	.3	.3	.2	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.5	.5	.5	.5
.4	.4	.4	.3	.3	.3	.3	.4	.4	.4	.4	.4	.3	.3	.3	.2	.2	.2	.3	.3	.3	.3	.2	.3	.3	.3	.3	.3	.4	.4	.5	.5	.5	.5	.5	.5
.3	.3	.3	.2	.2	.2	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.4	.3	.3	.2	.3
.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.0	.1	.0	.1	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.1
.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.1	.0	.0	.1	.0	.0	.0	.0	.0	-.1	-.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-.1	.0	.0	.0	.0	.0	.0
.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.1	.0	.1	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	.1	.1	.0	.1	.1	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0
.1	.1	.1	.1	.1	.1	.1	.2	.2	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
.2	.2	.2	.2	.2	.2	.1	.2	.2	.2	.2	.2	.2	.2	.2	.1	.2	.1	.2	.1	.2	.2	.2	.2	.1	.2	.2	.2	.2	.2	.2	.1	.1	.2	.2	.2
.2	.3	.3	.3	.3	.3	.3	.3	.2	.3	.3	.3	.4	.3	.3	.3	.3	.2	.3	.3	.3	.4	.4	.4	.4	.3	.3	.3	.4	.4	.4	.3	.3	.3	.2	.2
.3	.4	.4	.4	.4	.4	.4	.3	.3	.4	.4	.4	.4	.4	.4	.5	.5	.4	.5	.4	.4	.5	.5	.5	.5	.4	.5	.5	.5	.5	.4	.4	.4	.4	.3	.3
.4	.4	.4	.5	.5	.5	.5	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.5	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.4	.4	.4	.4	.5	.5	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4	.4	.5	.5	.4	.4	.4	.4	.4	.4
.5	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.7	.7	.7	.7	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.5	.5

Figure 37. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: AMSUA-7 (300 hPa)
NOAA15, using all observations

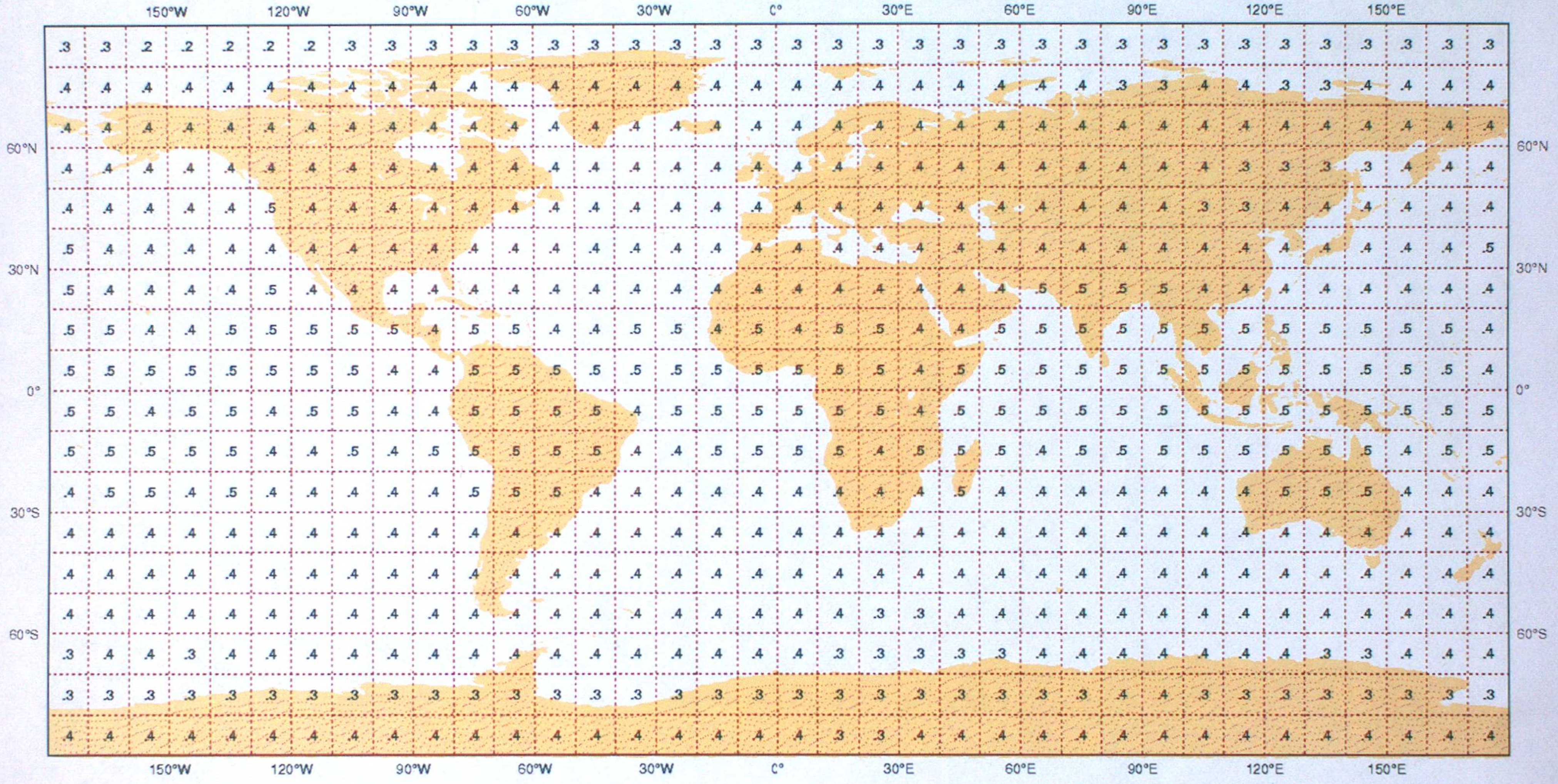
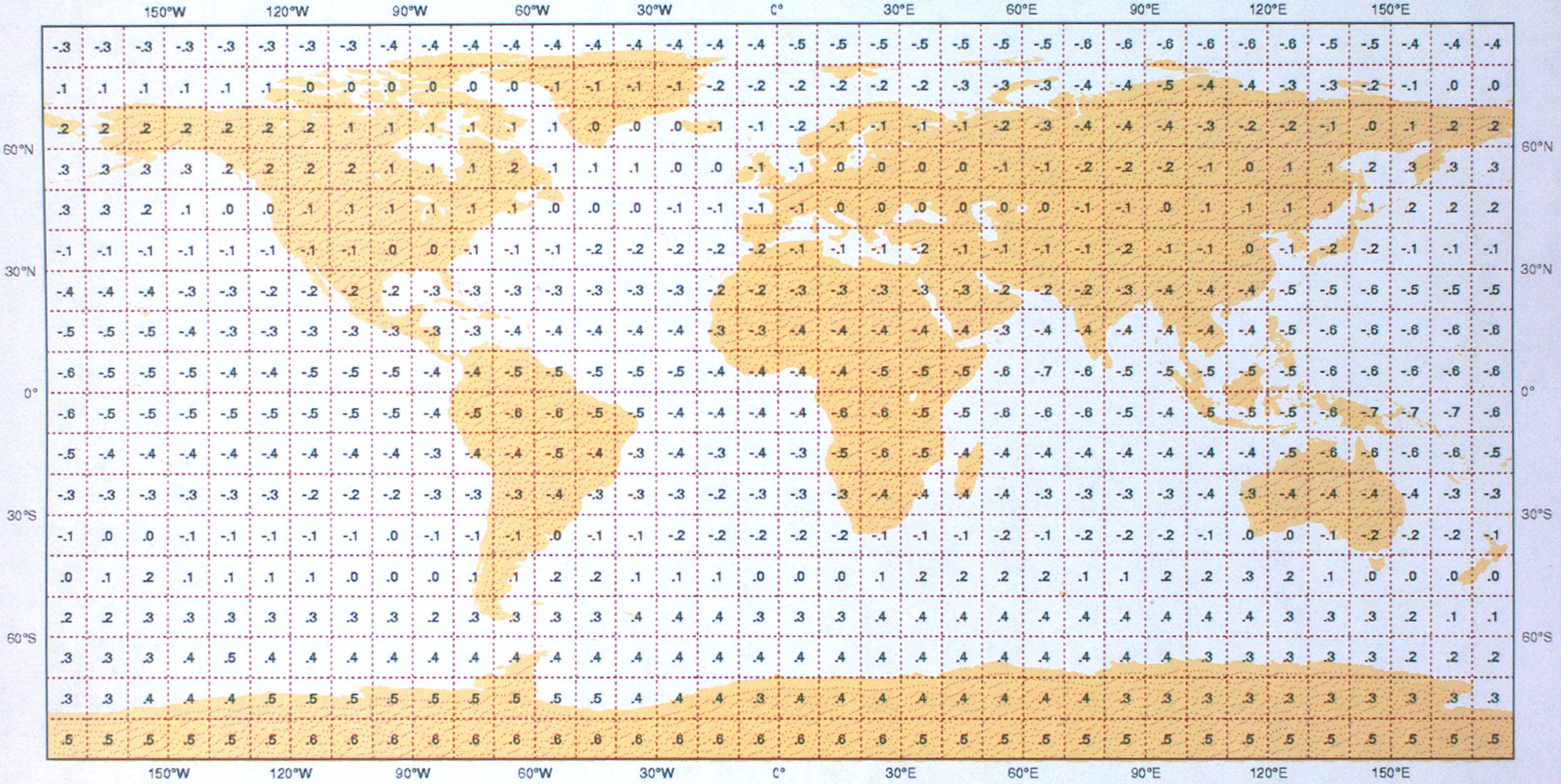
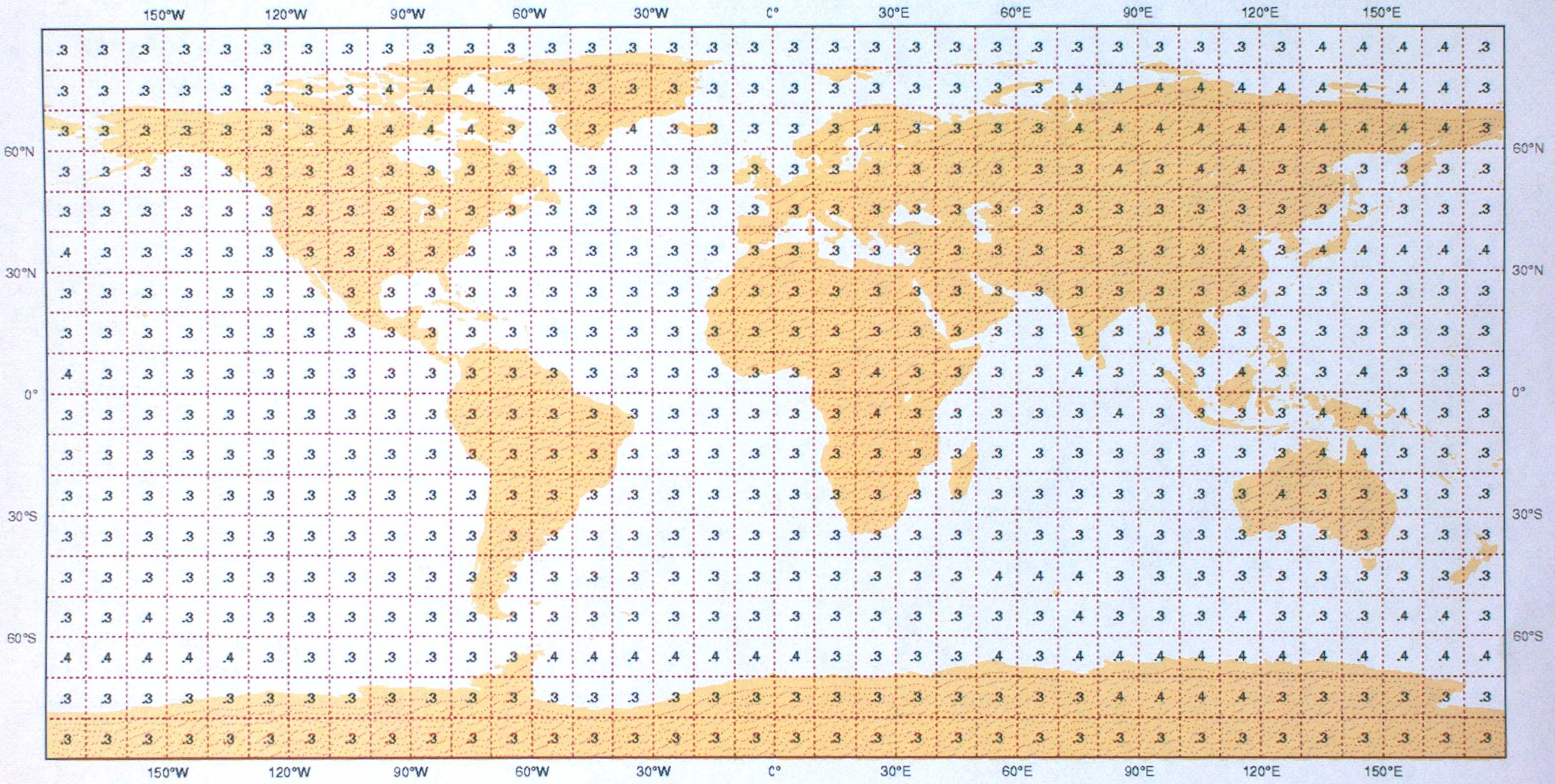

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S

Figure 38. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: AMSUA-9 (100 hPa)
NOAA15, using all observations



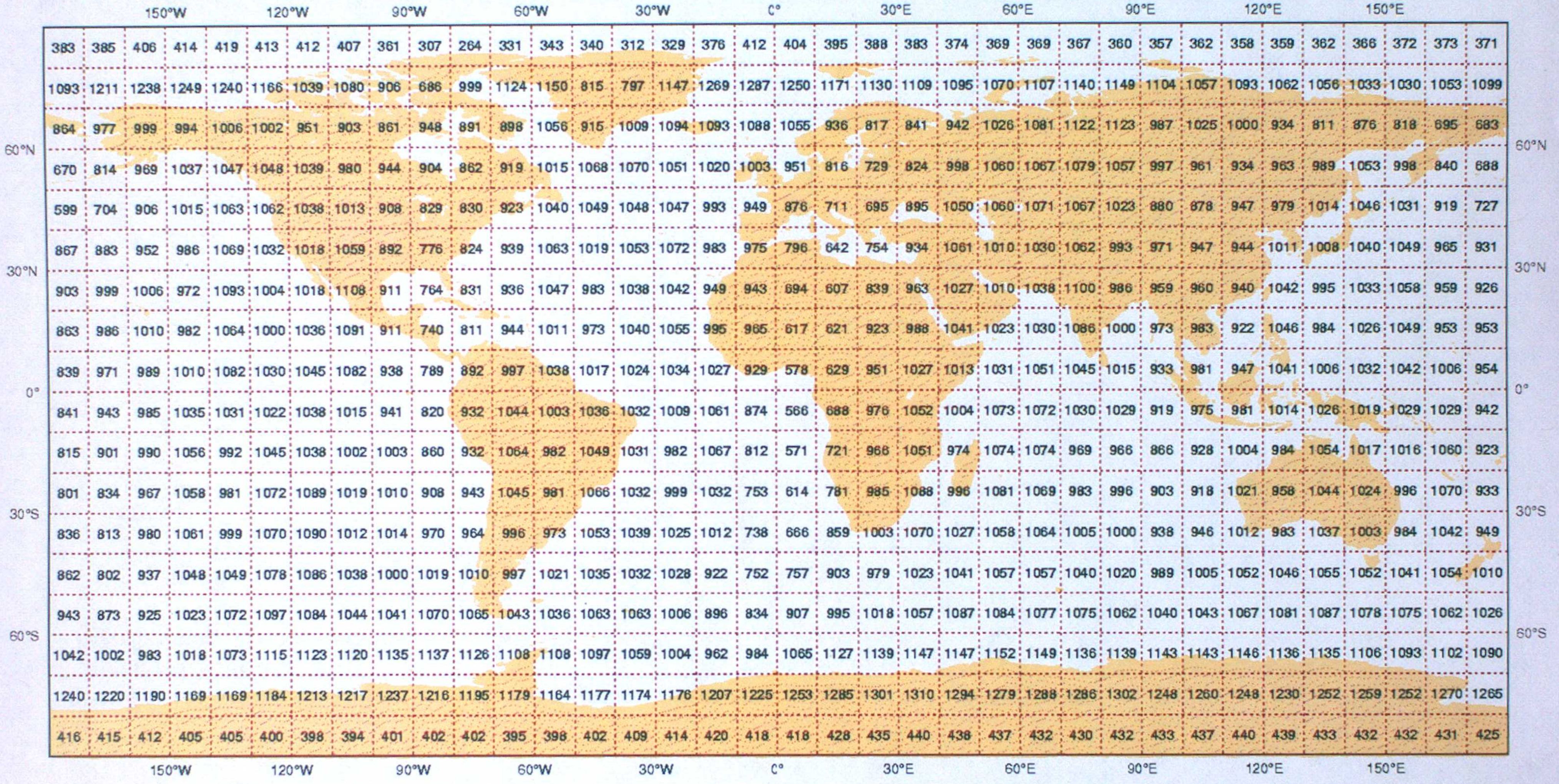
-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.4	-.4	-.4
.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.4	-.4	-.5	-.4	-.4	-.3	-.3	-.2	-.1	.0	.0
.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.0	.0	.0	-.1	-.1	-.2	-.1	-.1	-.1	-.1	-.2	-.3	-.4	-.4	-.4	-.3	-.2	-.2	-.1	.0	.1	.2	.2
.3	.3	.3	.3	.2	.2	.2	.2	.1	.1	.1	.2	.1	.1	.1	.0	.0	-.1	-.1	.0	.0	.0	.0	-.1	-.1	-.2	-.2	-.2	-.1	.0	.1	.1	.2	.3	.3	.3
.3	.3	.2	.1	.0	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	-.1	-.1	-.1	-.1	.0	.0	.0	.0	.0	.0	-.1	-.1	.0	.1	.1	.1	.1	.1	.2	.2	.2
-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.2	-.1	-.1	-.1	-.1	-.2	-.1	-.1	.0	-.1	-.2	-.2	-.1	-.1	-.1
-.4	-.4	-.4	-.3	-.3	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.3	-.4	-.4	-.4	-.5	-.5	-.6	-.5	-.5	-.5
-.5	-.5	-.5	-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.6	-.6	-.6	-.6	-.6
-.6	-.5	-.5	-.5	-.4	-.4	-.5	-.5	-.5	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.6	-.7	-.6	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.6	-.6	-.6
-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.5	-.6	-.6	-.5	-.5	-.4	-.4	-.4	-.4	-.6	-.6	-.5	-.5	-.6	-.6	-.6	-.5	-.4	-.5	-.5	-.5	-.6	-.7	-.7	-.7	-.6
-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.4	-.4	-.5	-.4	-.3	-.4	-.3	-.4	-.3	-.5	-.6	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.6	-.6	-.6	-.6	-.5
-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.3	-.3	-.3	-.4	-.3	-.3	-.3	-.2	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.4	-.3	-.4	-.4	-.4	-.4	-.3	-.3
-.1	.0	.0	-.1	-.1	-.1	-.1	-.1	.0	-.1	-.1	-.1	.0	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.2	-.1	-.2	-.2	-.2	-.1	.0	.0	-.1	-.2	-.2	-.2	-.1
.0	.1	.2	.1	.1	.1	.1	.0	.0	.0	.1	.1	.2	.2	.1	.1	.1	.0	.0	.0	.1	.2	.2	.2	.2	.1	.1	.2	.2	.3	.2	.1	.0	.0	.0	.0
.2	.2	.3	.3	.3	.3	.3	.3	.3	.2	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.2	.1	.1
.3	.3	.3	.4	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.2	.2	.2
.3	.3	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4	.3	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.5	.5	.5	.5	.5	.5	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5

Figure 39. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: AMSUA-9 (100 hPa)
NOAA15, using all observations



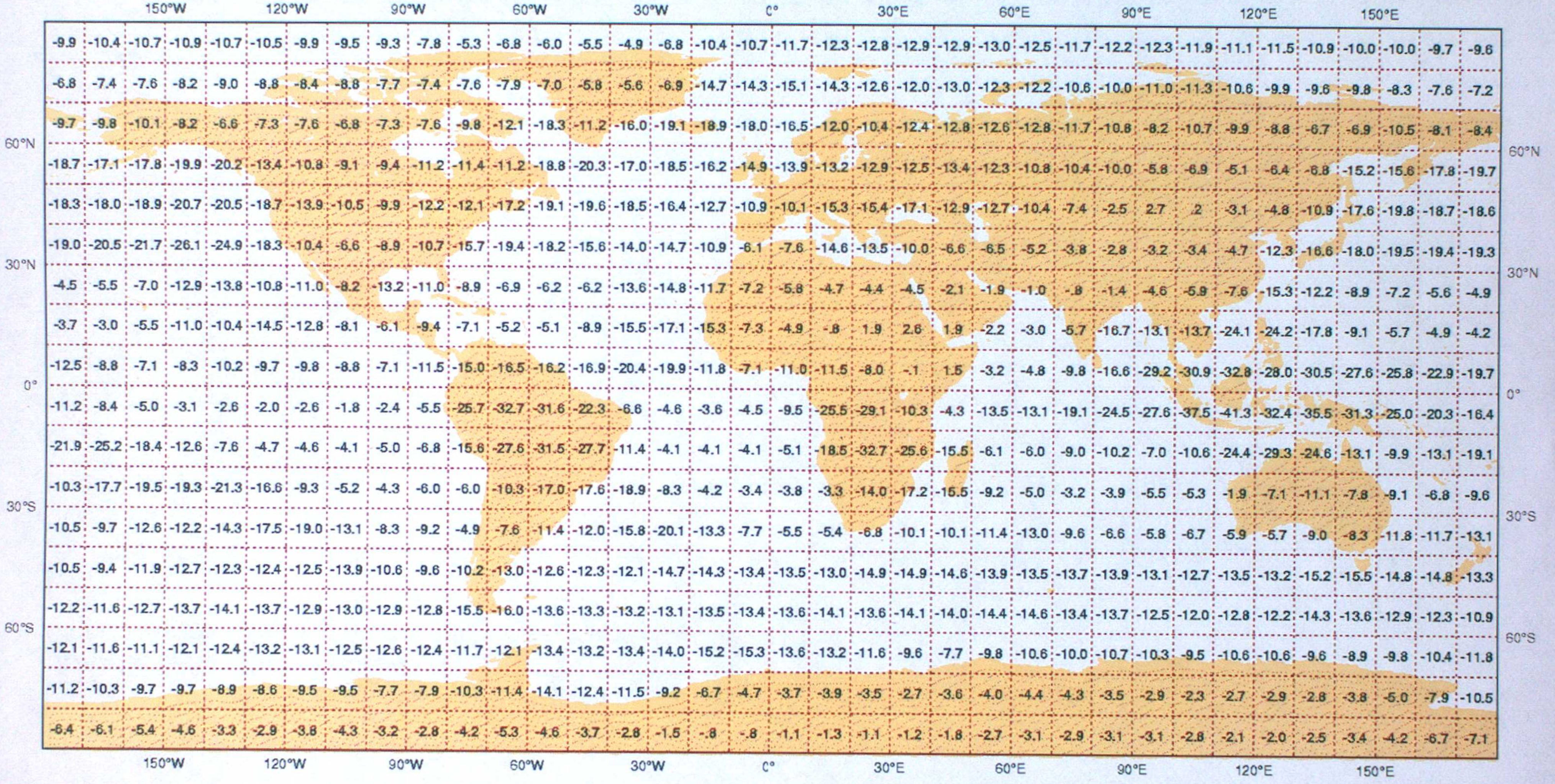
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.3
.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3
.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.3	.3	.3	.4	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.4	.4	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.4	.4	.4	.4	.4
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.4	.3	.3	.3	.4	.3	.3	.4	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.4	.4	.4	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.4	.3	.3	.3	.4	.4	.3
.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.4	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3

Figure 40. ATOVS mean daily count. DECEMBER 2005
NOAA16, using all observations
Global average number of observations in 24 hours = 606565



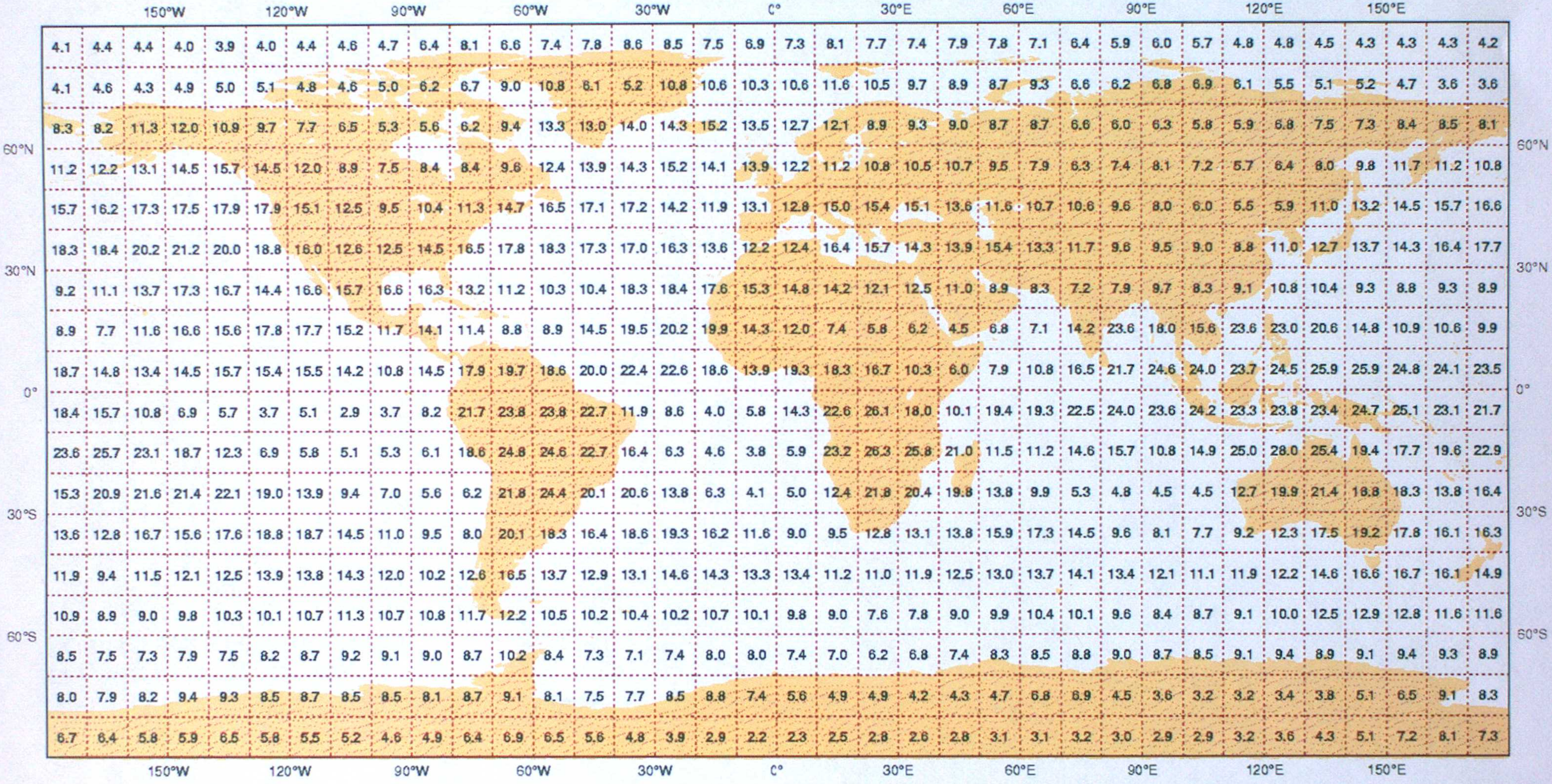
383	385	406	414	419	413	412	407	361	307	264	331	343	340	312	329	376	412	404	395	388	383	374	369	369	367	360	357	362	358	359	362	366	372	373	371
1093	1211	1238	1249	1240	1166	1039	1080	906	686	999	1124	1150	815	797	1147	1269	1287	1250	1171	1130	1109	1095	1070	1107	1140	1149	1104	1057	1093	1062	1056	1033	1030	1053	1099
864	977	999	994	1006	1002	951	903	861	948	891	898	1056	915	1009	1094	1093	1088	1055	936	817	841	942	1026	1081	1122	1123	987	1025	1000	934	811	876	818	695	683
670	814	969	1037	1047	1048	1039	980	944	904	862	919	1015	1068	1070	1051	1020	1003	951	816	729	824	998	1060	1067	1079	1057	997	961	934	963	989	1053	998	840	688
599	704	906	1015	1063	1062	1038	1013	908	829	830	923	1040	1049	1048	1047	993	949	876	711	695	895	1050	1060	1071	1067	1023	880	878	947	979	1014	1046	1031	919	727
867	883	952	986	1069	1032	1018	1059	892	776	824	939	1063	1019	1053	1072	983	975	796	642	754	934	1061	1010	1030	1062	993	971	947	944	1011	1008	1040	1049	965	931
903	999	1006	972	1093	1004	1018	1108	911	764	831	936	1047	983	1038	1042	949	943	694	607	839	963	1027	1010	1038	1100	986	959	960	940	1042	995	1033	1058	959	926
863	986	1010	982	1064	1000	1036	1091	911	740	811	944	1011	973	1040	1055	995	965	617	621	923	988	1041	1023	1030	1086	1000	973	983	922	1046	984	1026	1049	953	953
839	971	989	1010	1082	1030	1045	1082	938	789	892	997	1038	1017	1024	1034	1027	929	578	629	951	1027	1013	1031	1051	1045	1015	933	981	947	1041	1006	1032	1042	1006	954
841	943	985	1035	1031	1022	1038	1015	941	820	932	1044	1003	1036	1032	1009	1061	874	566	688	976	1052	1004	1073	1072	1030	1029	919	975	981	1014	1026	1019	1029	1029	942
815	901	990	1056	992	1045	1038	1002	1003	860	932	1064	982	1049	1031	982	1067	812	571	721	966	1051	974	1074	1074	969	966	866	928	1004	984	1054	1017	1016	1060	923
801	834	967	1058	981	1072	1089	1019	1010	908	943	1045	981	1066	1032	999	1032	753	614	781	985	1088	996	1081	1069	983	996	903	918	1021	958	1044	1024	996	1070	933
836	813	980	1061	999	1070	1090	1012	1014	970	964	996	973	1053	1039	1025	1012	738	666	859	1003	1070	1027	1058	1064	1005	1000	938	946	1012	983	1037	1003	984	1042	949
862	802	937	1048	1049	1078	1086	1038	1000	1019	1010	997	1021	1035	1032	1028	922	752	757	903	979	1023	1041	1057	1057	1040	1020	989	1005	1052	1046	1055	1052	1041	1054	1010
943	873	925	1023	1072	1097	1084	1044	1041	1070	1065	1043	1036	1063	1063	1006	896	834	907	995	1018	1057	1087	1084	1077	1075	1062	1040	1043	1067	1081	1087	1078	1075	1062	1026
1042	1002	983	1018	1073	1115	1123	1120	1135	1137	1126	1108	1108	1097	1059	1004	962	984	1065	1127	1139	1147	1147	1152	1149	1136	1139	1143	1143	1146	1136	1135	1106	1093	1102	1090
1240	1220	1190	1169	1169	1184	1213	1217	1237	1216	1195	1179	1164	1177	1174	1176	1207	1225	1253	1285	1301	1310	1294	1279	1288	1286	1302	1248	1260	1248	1230	1252	1259	1252	1270	1265
416	415	412	405	405	400	398	394	401	402	402	395	398	402	409	414	420	418	418	428	435	440	438	437	432	430	432	433	437	440	439	433	432	432	431	425

Figure 41. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS8 (Surface)
NOAA16, using all observations



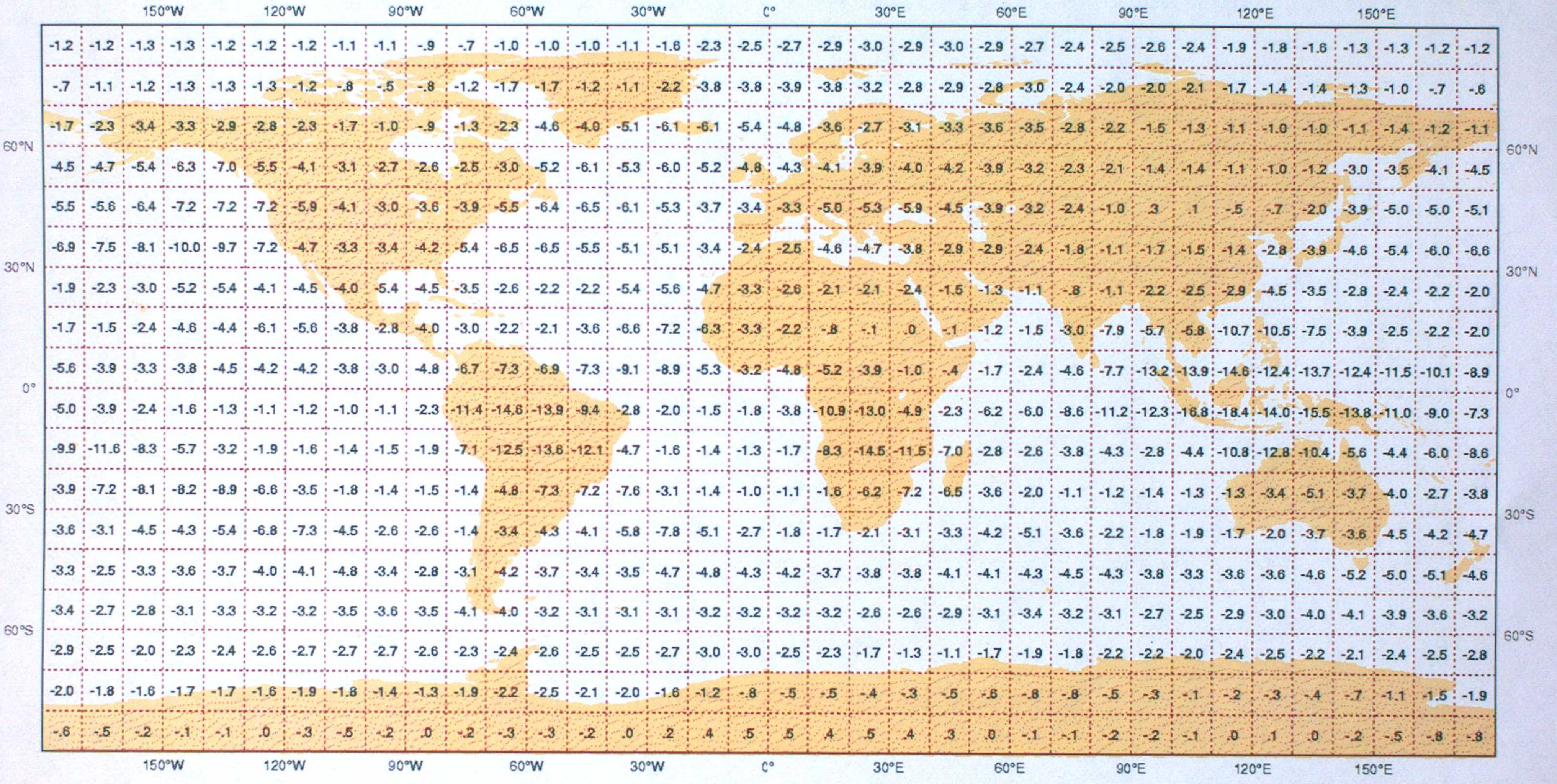
-9.9	-10.4	-10.7	-10.9	-10.7	-10.5	-9.9	-9.5	-9.3	-7.8	-5.3	-6.8	-6.0	-5.5	-4.9	-6.8	-10.4	-10.7	-11.7	-12.3	-12.8	-12.9	-12.9	-13.0	-12.5	-11.7	-12.2	-12.3	-11.9	-11.1	-11.5	-10.9	-10.0	-10.0	-9.7	-9.6
-6.8	-7.4	-7.6	-8.2	-9.0	-8.8	-8.4	-8.8	-7.7	-7.4	-7.6	-7.9	-7.0	-5.8	-5.6	-6.9	-14.7	-14.3	-15.1	-14.3	-12.6	-12.0	-13.0	-12.3	-12.2	-10.6	-10.0	-11.0	-11.3	-10.6	-9.9	-9.6	-9.8	-8.3	-7.6	-7.2
-9.7	-9.8	-10.1	-8.2	-6.6	-7.3	-7.6	-6.8	-7.3	-7.6	-9.8	-12.1	-18.3	-11.2	-16.0	-19.1	-18.9	-18.0	-16.5	-12.0	-10.4	-12.4	-12.8	-12.6	-12.8	-11.7	-10.8	-8.2	-10.7	-9.9	-8.8	-6.7	-6.9	-10.5	-8.1	-8.4
-18.7	-17.1	-17.8	-19.9	-20.2	-13.4	-10.8	-9.1	-9.4	-11.2	-11.4	-11.2	-18.8	-20.3	-17.0	-18.5	-16.2	-14.9	-13.9	-13.2	-12.9	-12.5	-13.4	-12.3	-10.8	-10.4	-10.0	-5.8	-6.9	-5.1	-6.4	-6.8	-15.2	-15.6	-17.8	-19.7
-18.3	-18.0	-18.9	-20.7	-20.5	-18.7	-13.9	-10.5	-9.9	-12.2	-12.1	-17.2	-19.1	-19.6	-18.5	-16.4	-12.7	-10.9	-10.1	-15.3	-15.4	-17.1	-12.9	-12.7	-10.4	-7.4	-2.5	2.7	.2	-3.1	-4.8	-10.9	-17.6	-19.8	-18.7	-18.6
-19.0	-20.5	-21.7	-26.1	-24.9	-18.3	-10.4	-6.6	-8.9	-10.7	-15.7	-19.4	-18.2	-15.6	-14.0	-14.7	-10.9	-6.1	-7.6	-14.6	-13.5	-10.0	-6.6	-6.5	-5.2	-3.8	-2.8	-3.2	-3.4	-4.7	-12.3	-16.6	-18.0	-19.5	-19.4	-19.3
-4.5	-5.5	-7.0	-12.9	-13.8	-10.8	-11.0	-8.2	-13.2	-11.0	-8.9	-6.9	-6.2	-6.2	-13.6	-14.8	-11.7	-7.2	-5.8	-4.7	-4.4	-4.5	-2.1	-1.9	-1.0	-.8	-1.4	-4.6	-5.9	-7.6	-15.3	-12.2	-8.9	-7.2	-5.6	-4.9
-3.7	-3.0	-5.5	-11.0	-10.4	-14.5	-12.8	-8.1	-6.1	-9.4	-7.1	-5.2	-5.1	-8.9	-15.5	-17.1	-15.3	-7.3	-4.9	-.8	1.9	2.6	1.9	-2.2	-3.0	-5.7	-16.7	-13.1	-13.7	-24.1	-24.2	-17.8	-9.1	-5.7	-4.9	-4.2
-12.5	-8.8	-7.1	-8.3	-10.2	-9.7	-9.8	-8.8	-7.1	-11.5	-15.0	-16.5	-16.2	-16.9	-20.4	-19.9	-11.8	-7.1	-11.0	-11.5	-8.0	-.1	1.5	-3.2	-4.8	-9.8	-16.6	-29.2	-30.9	-32.8	-28.0	-30.5	-27.6	-25.8	-22.9	-19.7
-11.2	-8.4	-5.0	-3.1	-2.6	-2.0	-2.6	-1.8	-2.4	-5.5	-25.7	-32.7	-31.6	-22.3	-6.6	-4.6	-3.6	-4.5	-9.5	-25.5	-29.1	-10.3	-4.3	-13.5	-13.1	-19.1	-24.5	-27.6	-37.5	-41.3	-32.4	-35.5	-31.3	-25.0	-20.3	-16.4
-21.9	-25.2	-18.4	-12.6	-7.6	-4.7	-4.6	-4.1	-5.0	-6.8	-15.6	-27.6	-31.5	-27.7	-11.4	-4.1	-4.1	-4.1	-5.1	-18.5	-32.7	-25.6	-15.5	-6.1	-6.0	-9.0	-10.2	-7.0	-10.6	-24.4	-29.3	-24.6	-13.1	-9.9	-13.1	-19.1
-10.3	-17.7	-19.5	-19.3	-21.3	-16.6	-9.3	-5.2	-4.3	-6.0	-6.0	-10.3	-17.0	-17.6	-18.9	-8.3	-4.2	-3.4	-3.8	-3.3	-14.0	-17.2	-15.5	-9.2	-5.0	-3.2	-3.9	-5.5	-5.3	-1.9	-7.1	-11.1	-7.8	-9.1	-6.8	-9.6
-10.5	-9.7	-12.6	-12.2	-14.3	-17.5	-19.0	-13.1	-8.3	-9.2	-4.9	-7.6	-11.4	-12.0	-15.8	-20.1	-13.3	-7.7	-5.5	-5.4	-6.8	-10.1	-10.1	-11.4	-13.0	-9.6	-6.6	-5.8	-6.7	-5.9	-5.7	-9.0	-8.3	-11.8	-11.7	-13.1
-10.5	-9.4	-11.9	-12.7	-12.3	-12.4	-12.5	-13.9	-10.6	-9.6	-10.2	-13.0	-12.6	-12.3	-12.1	-14.7	-14.3	-13.4	-13.5	-13.0	-14.9	-14.9	-14.6	-13.9	-13.5	-13.7	-13.9	-13.1	-12.7	-13.5	-13.2	-15.2	-15.5	-14.8	-14.8	-13.3
-12.2	-11.6	-12.7	-13.7	-14.1	-13.7	-12.9	-13.0	-12.9	-12.8	-15.5	-16.0	-13.6	-13.3	-13.2	-13.1	-13.5	-13.4	-13.6	-14.1	-13.6	-14.1	-14.0	-14.4	-14.6	-13.4	-13.7	-12.5	-12.0	-12.8	-12.2	-14.3	-13.6	-12.9	-12.3	-10.9
-12.1	-11.6	-11.1	-12.1	-12.4	-13.2	-13.1	-12.5	-12.6	-12.4	-11.7	-12.1	-13.4	-13.2	-13.4	-14.0	-15.2	-15.3	-13.6	-13.2	-11.6	-9.6	-7.7	-9.8	-10.6	-10.0	-10.7	-10.3	-9.5	-10.6	-10.6	-9.6	-8.9	-9.8	-10.4	-11.8
-11.2	-10.3	-9.7	-9.7	-8.9	-8.6	-9.5	-9.5	-7.7	-7.9	-10.3	-11.4	-14.1	-12.4	-11.5	-9.2	-6.7	-4.7	-3.7	-3.9	-3.5	-2.7	-3.6	-4.0	-4.4	-4.3	-3.5	-2.9	-2.3	-2.7	-2.9	-2.8	-3.8	-5.0	-7.9	-10.5
-6.4	-6.1	-5.4	-4.6	-3.3	-2.9	-3.8	-4.3	-3.2	-2.8	-4.2	-5.3	-4.6	-3.7	-2.8	-1.5	-.8	-.8	-1.1	-1.3	-1.1	-1.2	-1.8	-2.7	-3.1	-2.9	-3.1	-3.1	-2.8	-2.1	-2.0	-2.5	-3.4	-4.2	-6.7	-7.1

Figure 42. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS8 (Surface)
NOAA16, using all observations



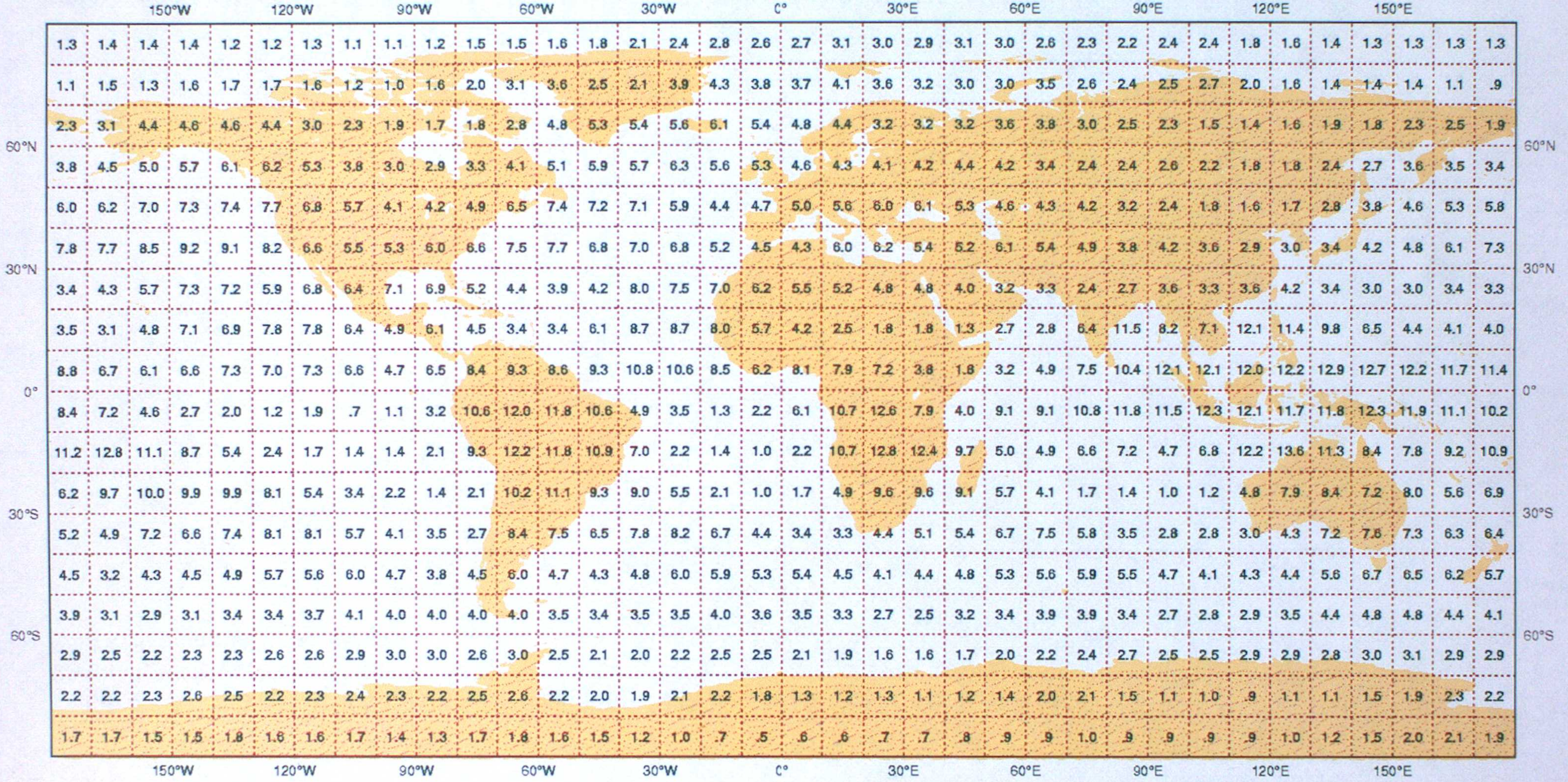
4.1	4.4	4.4	4.0	3.9	4.0	4.4	4.6	4.7	6.4	8.1	6.6	7.4	7.8	8.6	8.5	7.5	6.9	7.3	8.1	7.7	7.4	7.9	7.8	7.1	6.4	5.9	6.0	5.7	4.8	4.8	4.5	4.3	4.3	4.3	4.2
4.1	4.6	4.3	4.9	5.0	5.1	4.8	4.6	5.0	6.2	6.7	9.0	10.8	6.1	5.2	10.8	10.6	10.3	10.6	11.6	10.5	9.7	8.9	8.7	9.3	6.6	6.2	6.8	6.9	6.1	5.5	5.1	5.2	4.7	3.6	3.6
8.3	8.2	11.3	12.0	10.9	9.7	7.7	6.5	5.3	5.6	6.2	9.4	13.3	13.0	14.0	14.3	15.2	13.5	12.7	12.1	8.9	9.3	9.0	8.7	8.7	6.6	6.0	6.3	5.8	5.9	6.8	7.5	7.3	8.4	8.5	8.1
11.2	12.2	13.1	14.5	15.7	14.5	12.0	8.9	7.5	8.4	8.4	9.6	12.4	13.9	14.3	15.2	14.1	13.9	12.2	11.2	10.8	10.5	10.7	9.5	7.9	6.3	7.4	8.1	7.2	5.7	6.4	8.0	9.8	11.7	11.2	10.8
15.7	16.2	17.3	17.5	17.9	17.9	15.1	12.5	9.5	10.4	11.3	14.7	16.5	17.1	17.2	14.2	11.9	13.1	12.8	15.0	15.4	15.1	13.6	11.6	10.7	10.6	9.6	8.0	6.0	5.5	5.9	11.0	13.2	14.5	15.7	16.6
18.3	18.4	20.2	21.2	20.0	18.8	16.0	12.6	12.5	14.5	16.5	17.8	18.3	17.3	17.0	16.3	13.6	12.2	12.4	16.4	15.7	14.3	13.9	15.4	13.3	11.7	9.6	9.5	9.0	8.8	11.0	12.7	13.7	14.3	16.4	17.7
9.2	11.1	13.7	17.3	16.7	14.4	16.6	15.7	16.6	16.3	13.2	11.2	10.3	10.4	18.3	18.4	17.6	15.3	14.8	14.2	12.1	12.5	11.0	8.9	8.3	7.2	7.9	9.7	8.3	9.1	10.8	10.4	9.3	8.8	9.3	8.9
8.9	7.7	11.6	16.6	15.6	17.8	17.7	15.2	11.7	14.1	11.4	8.8	8.9	14.5	19.5	20.2	19.9	14.3	12.0	7.4	5.8	6.2	4.5	6.8	7.1	14.2	23.6	18.0	15.6	23.6	23.0	20.6	14.8	10.9	10.6	9.9
18.7	14.8	13.4	14.5	15.7	15.4	15.5	14.2	10.8	14.5	17.9	19.7	18.6	20.0	22.4	22.6	18.6	13.9	19.3	18.3	16.7	10.3	6.0	7.9	10.8	16.5	21.7	24.6	24.0	23.7	24.5	25.9	25.9	24.8	24.1	23.5
18.4	15.7	10.8	6.9	5.7	3.7	5.1	2.9	3.7	8.2	21.7	23.8	23.8	22.7	11.9	8.6	4.0	5.8	14.3	22.6	26.1	18.0	10.1	19.4	19.3	22.5	24.0	23.6	24.2	23.3	23.8	23.4	24.7	25.1	23.1	21.7
23.6	25.7	23.1	18.7	12.3	6.9	5.8	5.1	5.3	6.1	18.6	24.8	24.6	22.7	16.4	6.3	4.6	3.8	5.9	23.2	26.3	25.8	21.0	11.5	11.2	14.6	15.7	10.8	14.9	25.0	28.0	25.4	19.4	17.7	19.6	22.9
15.3	20.9	21.6	21.4	22.1	19.0	13.9	9.4	7.0	5.6	6.2	21.8	24.4	20.1	20.6	13.8	6.3	4.1	5.0	12.4	21.8	20.4	19.8	13.8	9.9	5.3	4.8	4.5	4.5	12.7	19.9	21.4	18.8	18.3	13.8	16.4
13.6	12.8	16.7	15.6	17.6	18.8	18.7	14.5	11.0	9.5	8.0	20.1	18.3	16.4	18.6	19.3	16.2	11.6	9.0	9.5	12.8	13.1	13.8	15.9	17.3	14.5	9.6	8.1	7.7	9.2	12.3	17.5	19.2	17.8	16.1	16.3
11.9	9.4	11.5	12.1	12.5	13.9	13.8	14.3	12.0	10.2	12.6	16.5	13.7	12.9	13.1	14.6	14.3	13.3	13.4	11.2	11.0	11.9	12.5	13.0	13.7	14.1	13.4	12.1	11.1	11.9	12.2	14.6	16.6	16.7	16.1	14.9
10.9	8.9	9.0	9.8	10.3	10.1	10.7	11.3	10.7	10.8	11.7	12.2	10.5	10.2	10.4	10.2	10.7	10.1	9.8	9.0	7.6	7.8	9.0	9.9	10.4	10.1	9.6	8.4	8.7	9.1	10.0	12.5	12.9	12.8	11.6	11.6
8.5	7.5	7.3	7.9	7.5	8.2	8.7	9.2	9.1	9.0	8.7	10.2	8.4	7.3	7.1	7.4	8.0	8.0	7.4	7.0	6.2	6.8	7.4	8.3	8.5	8.8	9.0	8.7	8.5	9.1	9.4	8.9	9.1	9.4	9.3	8.9
8.0	7.9	8.2	9.4	9.3	8.5	8.7	8.5	8.5	8.1	8.7	9.1	8.1	7.5	7.7	8.5	8.8	7.4	5.6	4.9	4.9	4.2	4.3	4.7	6.8	6.9	4.5	3.6	3.2	3.2	3.4	3.8	5.1	6.5	9.1	8.3
6.7	6.4	5.8	5.9	6.5	5.8	5.5	5.2	4.6	4.9	6.4	6.9	6.5	5.6	4.8	3.9	2.9	2.2	2.3	2.5	2.8	2.6	2.8	3.1	3.1	3.2	3.0	2.9	2.9	3.2	3.6	4.3	5.1	7.2	8.1	7.3

Figure 43. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS15 (700 hPa)
NOAA16, using all observations



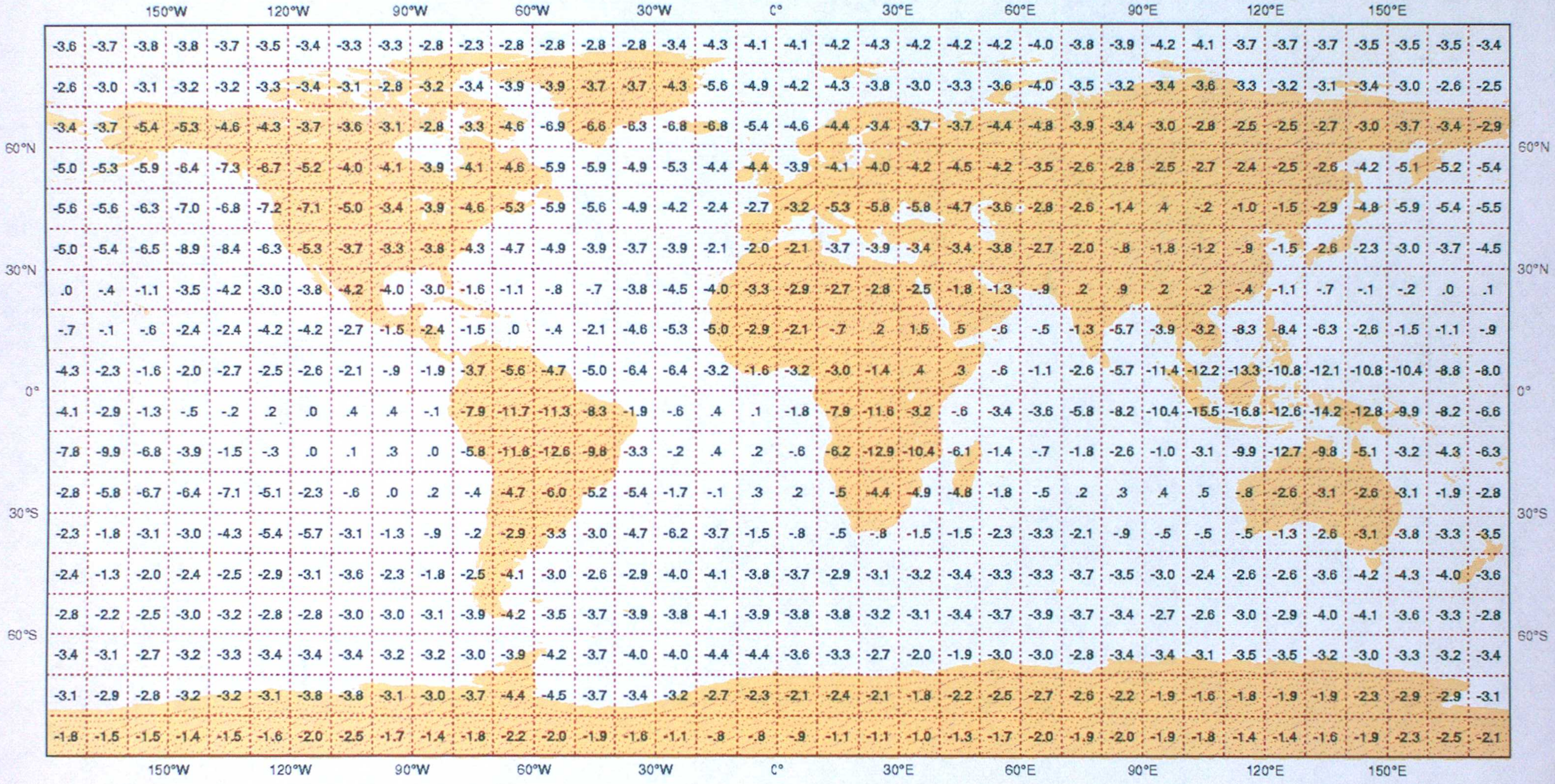
-1.2	-1.2	-1.3	-1.3	-1.2	-1.2	-1.2	-1.1	-1.1	-.9	-.7	-1.0	-1.0	-1.0	-1.1	-1.6	-2.3	-2.5	-2.7	-2.9	-3.0	-2.9	-3.0	-2.9	-2.7	-2.4	-2.5	-2.6	-2.4	-1.9	-1.8	-1.6	-1.3	-1.3	-1.2	-1.2
-.7	-1.1	-1.2	-1.3	-1.3	-1.3	-1.2	-.8	-.5	-.8	-1.2	-1.7	-1.7	-1.2	-1.1	-2.2	-3.8	-3.8	-3.9	-3.8	-3.2	-2.8	-2.9	-2.8	-3.0	-2.4	-2.0	-2.0	-2.1	-1.7	-1.4	-1.4	-1.3	-1.0	-.7	-.6
-1.7	-2.3	-3.4	-3.3	-2.9	-2.8	-2.3	-1.7	-1.0	-.9	-1.3	-2.3	-4.6	-4.0	-5.1	-6.1	-6.1	-5.4	-4.8	-3.6	-2.7	-3.1	-3.3	-3.6	-3.5	-2.8	-2.2	-1.5	-1.3	-1.1	-1.0	-1.0	-1.1	-1.4	-1.2	-1.1
-4.5	-4.7	-5.4	-6.3	-7.0	-5.5	-4.1	-3.1	-2.7	-2.6	-2.5	-3.0	-5.2	-6.1	-5.3	-6.0	-5.2	-4.8	-4.3	-4.1	-3.9	-4.0	-4.2	-3.9	-3.2	-2.3	-2.1	-1.4	-1.4	-1.1	-1.0	-1.2	-3.0	-3.5	-4.1	-4.5
-5.5	-5.6	-6.4	-7.2	-7.2	-7.2	-5.9	-4.1	-3.0	-3.6	-3.9	-5.5	-6.4	-6.5	-6.1	-5.3	-3.7	-3.4	-3.3	-5.0	-5.3	-5.9	-4.5	-3.9	-3.2	-2.4	-1.0	.3	.1	-.5	-.7	-2.0	-3.9	-5.0	-5.0	-5.1
-6.9	-7.5	-8.1	-10.0	-9.7	-7.2	-4.7	-3.3	-3.4	-4.2	-5.4	-6.5	-6.5	-5.5	-5.1	-5.1	-3.4	-2.4	-2.5	-4.6	-4.7	-3.8	-2.9	-2.9	-2.4	-1.8	-1.1	-1.7	-1.5	-1.4	-2.8	-3.9	-4.6	-5.4	-6.0	-6.6
-1.9	-2.3	-3.0	-5.2	-5.4	-4.1	-4.5	-4.0	-5.4	-4.5	-3.5	-2.6	-2.2	-2.2	-5.4	-5.6	-4.7	-3.3	-2.6	-2.1	-2.1	-2.4	-1.5	-1.3	-1.1	-.8	-1.1	-2.2	-2.5	-2.9	-4.5	-3.5	-2.8	-2.4	-2.2	-2.0
-1.7	-1.5	-2.4	-4.6	-4.4	-6.1	-5.6	-3.8	-2.8	-4.0	-3.0	-2.2	-2.1	-3.6	-6.6	-7.2	-6.3	-3.3	-2.2	-.8	-.1	.0	-.1	-1.2	-1.5	-3.0	-7.9	-5.7	-5.8	-10.7	-10.5	-7.5	-3.9	-2.5	-2.2	-2.0
-5.6	-3.9	-3.3	-3.8	-4.5	-4.2	-4.2	-3.8	-3.0	-4.8	-6.7	-7.3	-6.9	-7.3	-9.1	-8.9	-5.3	-3.2	-4.8	-5.2	-3.9	-1.0	-.4	-1.7	-2.4	-4.6	-7.7	-13.2	-13.9	-14.6	-12.4	-13.7	-12.4	-11.5	-10.1	-8.9
-5.0	-3.9	-2.4	-1.6	-1.3	-1.1	-1.2	-1.0	-1.1	-2.3	-11.4	-14.6	-13.9	-9.4	-2.8	-2.0	-1.5	-1.8	-3.8	-10.9	-13.0	-4.9	-2.3	-6.2	-6.0	-8.6	-11.2	-12.3	-16.8	-18.4	-14.0	-15.5	-13.8	-11.0	-9.0	-7.3
-9.9	-11.6	-8.3	-5.7	-3.2	-1.9	-1.6	-1.4	-1.5	-1.9	-7.1	-12.5	-13.6	-12.1	-4.7	-1.6	-1.4	-1.3	-1.7	-8.3	-14.5	-11.5	-7.0	-2.8	-2.6	-3.8	-4.3	-2.8	-4.4	-10.8	-12.8	-10.4	-5.6	-4.4	-6.0	-8.6
-3.9	-7.2	-8.1	-8.2	-8.9	-6.6	-3.5	-1.8	-1.4	-1.5	-1.4	-4.8	-7.3	-7.2	-7.6	-3.1	-1.4	-1.0	-1.1	-1.6	-6.2	-7.2	-6.5	-3.6	-2.0	-1.1	-1.2	-1.4	-1.3	-1.3	-3.4	-5.1	-3.7	-4.0	-2.7	-3.8
-3.6	-3.1	-4.5	-4.3	-5.4	-6.8	-7.3	-4.5	-2.6	-2.6	-1.4	-3.4	-4.3	-4.1	-5.8	-7.8	-5.1	-2.7	-1.8	-1.7	-2.1	-3.1	-3.3	-4.2	-5.1	-3.6	-2.2	-1.8	-1.9	-1.7	-2.0	-3.7	-3.6	-4.5	-4.2	-4.7
-3.3	-2.5	-3.3	-3.6	-3.7	-4.0	-4.1	-4.8	-3.4	-2.8	-3.1	-4.2	-3.7	-3.4	-3.5	-4.7	-4.8	-4.3	-4.2	-3.7	-3.8	-3.8	-4.1	-4.1	-4.3	-4.5	-4.3	-3.8	-3.3	-3.6	-3.6	-4.6	-5.2	-5.0	-5.1	-4.6
-3.4	-2.7	-2.8	-3.1	-3.3	-3.2	-3.2	-3.5	-3.6	-3.5	-4.1	-4.0	-3.2	-3.1	-3.1	-3.1	-3.2	-3.2	-3.2	-3.2	-2.6	-2.6	-2.9	-3.1	-3.4	-3.2	-3.1	-2.7	-2.5	-2.9	-3.0	-4.0	-4.1	-3.9	-3.6	-3.2
-2.9	-2.5	-2.0	-2.3	-2.4	-2.6	-2.7	-2.7	-2.7	-2.6	-2.3	-2.4	-2.6	-2.5	-2.5	-2.7	-3.0	-3.0	-2.5	-2.3	-1.7	-1.3	-1.1	-1.7	-1.9	-1.8	-2.2	-2.2	-2.0	-2.4	-2.5	-2.2	-2.1	-2.4	-2.5	-2.8
-2.0	-1.8	-1.6	-1.7	-1.7	-1.6	-1.9	-1.8	-1.4	-1.3	-1.9	-2.2	-2.5	-2.1	-2.0	-1.6	-1.2	-.8	-.5	-.5	-.4	-.3	-.5	-.6	-.8	-.8	-.5	-.3	-.1	-.2	-.3	-.4	-.7	-1.1	-1.5	-1.9
-.6	-.5	-.2	-.1	-.1	.0	-.3	-.5	-.2	.0	-.2	-.3	-.3	-.2	.0	.2	.4	.5	.5	.4	.5	.4	.3	.0	-.1	-.1	-.2	-.2	-.1	.0	.1	.0	-.2	-.5	-.8	-.8

Figure 44. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS15 (700 hPa)
NOAA16, using all observations



1.3	1.4	1.4	1.4	1.2	1.2	1.3	1.1	1.1	1.2	1.5	1.5	1.6	1.8	2.1	2.4	2.8	2.6	2.7	3.1	3.0	2.9	3.1	3.0	2.6	2.3	2.2	2.4	2.4	1.8	1.6	1.4	1.3	1.3	1.3	1.3
1.1	1.5	1.3	1.6	1.7	1.7	1.6	1.2	1.0	1.6	2.0	3.1	3.6	2.5	2.1	3.9	4.3	3.8	3.7	4.1	3.6	3.2	3.0	3.0	3.5	2.6	2.4	2.5	2.7	2.0	1.6	1.4	1.4	1.4	1.1	.9
2.3	3.1	4.4	4.6	4.6	4.4	3.0	2.3	1.9	1.7	1.8	2.8	4.8	5.3	5.4	5.6	6.1	5.4	4.8	4.4	3.2	3.2	3.2	3.6	3.8	3.0	2.5	2.3	1.5	1.4	1.6	1.9	1.8	2.3	2.5	1.9
3.8	4.5	5.0	5.7	6.1	6.2	5.3	3.8	3.0	2.9	3.3	4.1	5.1	5.9	5.7	6.3	5.6	5.3	4.6	4.3	4.1	4.2	4.4	4.2	3.4	2.4	2.4	2.6	2.2	1.8	1.8	2.4	2.7	3.6	3.5	3.4
6.0	6.2	7.0	7.3	7.4	7.7	6.8	5.7	4.1	4.2	4.9	6.5	7.4	7.2	7.1	5.9	4.4	4.7	5.0	5.6	6.0	6.1	5.3	4.6	4.3	4.2	3.2	2.4	1.8	1.6	1.7	2.8	3.8	4.6	5.3	5.8
7.8	7.7	8.5	9.2	9.1	8.2	6.6	5.5	5.3	6.0	6.6	7.5	7.7	6.8	7.0	6.8	5.2	4.5	4.3	6.0	6.2	5.4	5.2	6.1	5.4	4.9	3.8	4.2	3.6	2.9	3.0	3.4	4.2	4.8	6.1	7.3
3.4	4.3	5.7	7.3	7.2	5.9	6.8	6.4	7.1	6.9	5.2	4.4	3.9	4.2	8.0	7.5	7.0	6.2	5.5	5.2	4.8	4.8	4.0	3.2	3.3	2.4	2.7	3.6	3.3	3.6	4.2	3.4	3.0	3.0	3.4	3.3
3.5	3.1	4.8	7.1	6.9	7.8	7.8	6.4	4.9	6.1	4.5	3.4	3.4	6.1	8.7	8.7	8.0	5.7	4.2	2.5	1.8	1.8	1.3	2.7	2.8	6.4	11.5	8.2	7.1	12.1	11.4	9.8	6.5	4.4	4.1	4.0
8.8	6.7	6.1	6.6	7.3	7.0	7.3	6.6	4.7	6.5	8.4	9.3	8.6	9.3	10.8	10.6	8.5	6.2	8.1	7.9	7.2	3.8	1.8	3.2	4.9	7.5	10.4	12.1	12.1	12.0	12.2	12.9	12.7	12.2	11.7	11.4
8.4	7.2	4.6	2.7	2.0	1.2	1.9	.7	1.1	3.2	10.6	12.0	11.8	10.6	4.9	3.5	1.3	2.2	6.1	10.7	12.6	7.9	4.0	9.1	9.1	10.8	11.8	11.5	12.3	12.1	11.7	11.8	12.3	11.9	11.1	10.2
11.2	12.8	11.1	8.7	5.4	2.4	1.7	1.4	1.4	2.1	9.3	12.2	11.8	10.9	7.0	2.2	1.4	1.0	2.2	10.7	12.8	12.4	9.7	5.0	4.9	6.6	7.2	4.7	6.8	12.2	13.6	11.3	8.4	7.8	9.2	10.9
6.2	9.7	10.0	9.9	9.9	8.1	5.4	3.4	2.2	1.4	2.1	10.2	11.1	9.3	9.0	5.5	2.1	1.0	1.7	4.9	9.6	9.6	9.1	5.7	4.1	1.7	1.4	1.0	1.2	4.8	7.9	8.4	7.2	8.0	5.6	6.9
5.2	4.9	7.2	6.6	7.4	8.1	8.1	5.7	4.1	3.5	2.7	8.4	7.5	6.5	7.8	8.2	6.7	4.4	3.4	3.3	4.4	5.1	5.4	6.7	7.5	5.8	3.5	2.8	2.8	3.0	4.3	7.2	7.6	7.3	6.3	6.4
4.5	3.2	4.3	4.5	4.9	5.7	5.6	6.0	4.7	3.8	4.5	6.0	4.7	4.3	4.8	6.0	5.9	5.3	5.4	4.5	4.1	4.4	4.8	5.3	5.6	5.9	5.5	4.7	4.1	4.3	4.4	5.6	6.7	6.5	6.2	5.7
3.9	3.1	2.9	3.1	3.4	3.4	3.7	4.1	4.0	4.0	4.0	4.0	3.5	3.4	3.5	3.5	4.0	3.6	3.5	3.3	2.7	2.5	3.2	3.4	3.9	3.9	3.4	2.7	2.8	2.9	3.5	4.4	4.8	4.8	4.4	4.1
2.9	2.5	2.2	2.3	2.3	2.6	2.6	2.9	3.0	3.0	2.6	3.0	2.5	2.1	2.0	2.2	2.5	2.5	2.1	1.9	1.6	1.6	1.7	2.0	2.2	2.4	2.7	2.5	2.5	2.9	2.9	2.8	3.0	3.1	2.9	2.9
2.2	2.2	2.3	2.6	2.5	2.2	2.3	2.4	2.3	2.2	2.5	2.6	2.2	2.0	1.9	2.1	2.2	1.8	1.3	1.2	1.3	1.1	1.2	1.4	2.0	2.1	1.5	1.1	1.0	.9	1.1	1.1	1.5	1.9	2.3	2.2
1.7	1.7	1.5	1.5	1.8	1.6	1.6	1.7	1.4	1.3	1.7	1.8	1.6	1.5	1.2	1.0	.7	.5	.6	.6	.7	.7	.8	.9	.9	1.0	.9	.9	.9	.9	1.0	1.2	1.5	2.0	2.1	1.9

Figure 45. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS11 (500 - 700 hPa)
NOAA16, using all observations

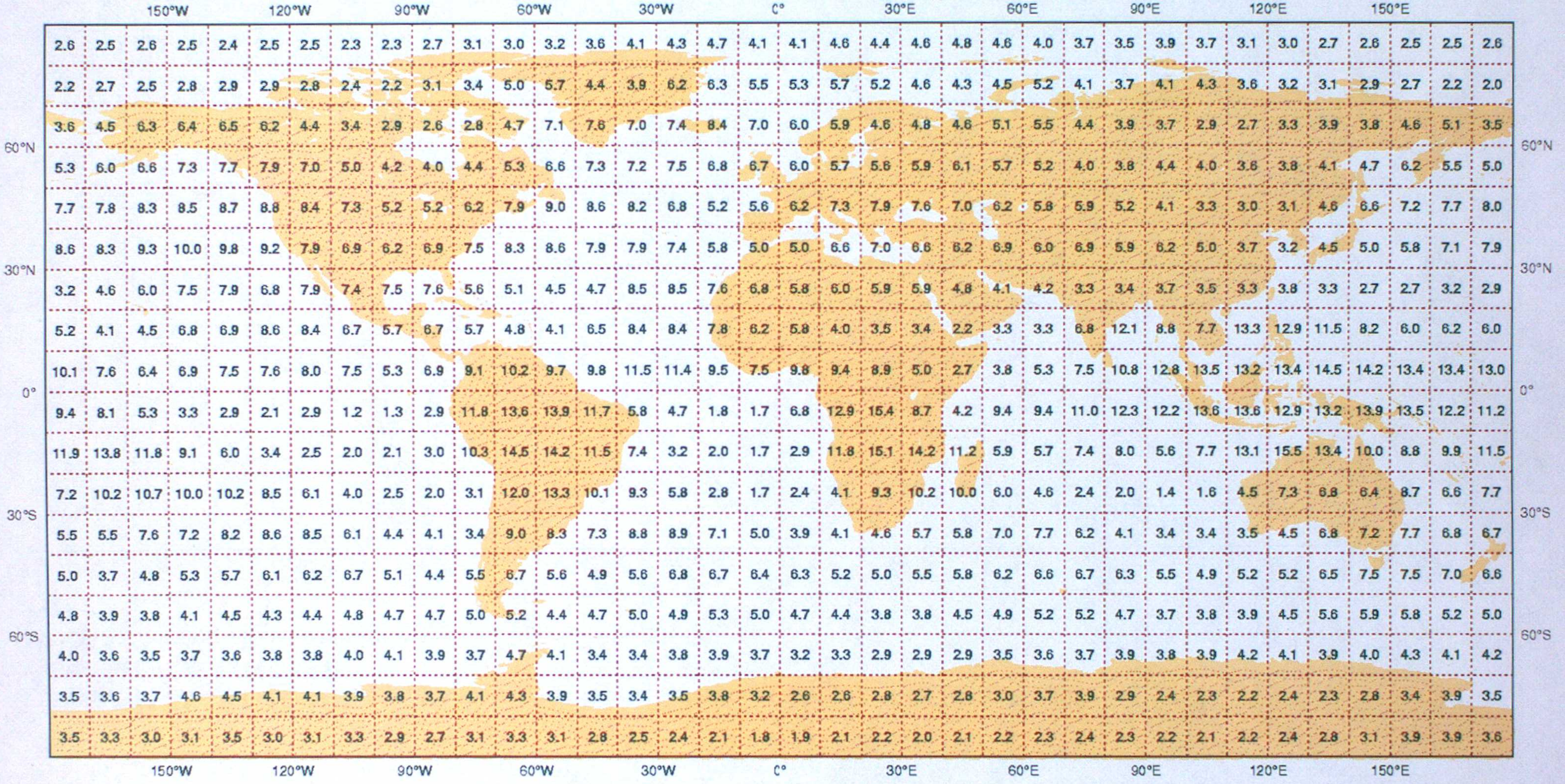


-3.6	-3.7	-3.8	-3.8	-3.7	-3.5	-3.4	-3.3	-3.3	-2.8	-2.3	-2.8	-2.8	-2.8	-2.8	-3.4	-4.3	-4.1	-4.1	-4.2	-4.3	-4.2	-4.2	-4.2	-4.0	-3.8	-3.9	-4.2	-4.1	-3.7	-3.7	-3.7	-3.5	-3.5	-3.5	-3.4
-2.6	-3.0	-3.1	-3.2	-3.2	-3.3	-3.4	-3.1	-2.8	-3.2	-3.4	-3.9	-3.9	-3.7	-3.7	-4.3	-5.6	-4.9	-4.2	-4.3	-3.8	-3.0	-3.3	-3.6	-4.0	-3.5	-3.2	-3.4	-3.6	-3.3	-3.2	-3.1	-3.4	-3.0	-2.6	-2.5
-3.4	-3.7	-5.4	-5.3	-4.6	-4.3	-3.7	-3.6	-3.1	-2.8	-3.3	-4.6	-6.9	-6.6	-6.3	-6.8	-6.8	-5.4	-4.6	-4.4	-3.4	-3.7	-3.7	-4.4	-4.8	-3.9	-3.4	-3.0	-2.8	-2.5	-2.5	-2.7	-3.0	-3.7	-3.4	-2.9
-5.0	-5.3	-5.9	-6.4	-7.3	-6.7	-5.2	-4.0	-4.1	-3.9	-4.1	-4.6	-5.9	-5.9	-4.9	-5.3	-4.4	-4.4	-3.9	-4.1	-4.0	-4.2	-4.5	-4.2	-3.5	-2.6	-2.8	-2.5	-2.7	-2.4	-2.5	-2.6	-4.2	-5.1	-5.2	-5.4
-5.6	-5.6	-6.3	-7.0	-6.8	-7.2	-7.1	-5.0	-3.4	-3.9	-4.6	-5.3	-5.9	-5.6	-4.9	-4.2	-2.4	-2.7	-3.2	-5.3	-5.8	-5.8	-4.7	-3.6	-2.8	-2.6	-1.4	.4	-.2	-1.0	-1.5	-2.9	-4.8	-5.9	-5.4	-5.5
-5.0	-5.4	-6.5	-8.9	-8.4	-6.3	-5.3	-3.7	-3.3	-3.8	-4.3	-4.7	-4.9	-3.9	-3.7	-3.9	-2.1	-2.0	-2.1	-3.7	-3.9	-3.4	-3.4	-3.8	-2.7	-2.0	-.8	-1.8	-1.2	-.9	-1.5	-2.6	-2.3	-3.0	-3.7	-4.5
.0	-.4	-1.1	-3.5	-4.2	-3.0	-3.8	-4.2	-4.0	-3.0	-1.6	-1.1	-.8	-.7	-3.8	-4.5	-4.0	-3.3	-2.9	-2.7	-2.8	-2.5	-1.8	-1.3	-.9	.2	.9	.2	-.2	-.4	-1.1	-.7	-.1	-.2	.0	.1
-.7	-.1	-.6	-2.4	-2.4	-4.2	-4.2	-2.7	-1.5	-2.4	-1.5	.0	-.4	-2.1	-4.6	-5.3	-5.0	-2.9	-2.1	-.7	.2	1.5	.5	-.6	-.5	-1.3	-5.7	-3.9	-3.2	-8.3	-8.4	-6.3	-2.6	-1.5	-1.1	-.9
-4.3	-2.3	-1.6	-2.0	-2.7	-2.5	-2.6	-2.1	-.9	-1.9	-3.7	-5.6	-4.7	-5.0	-6.4	-6.4	-3.2	-1.6	-3.2	-3.0	-1.4	.4	.3	-.6	-1.1	-2.6	-5.7	-11.4	-12.2	-13.3	-10.8	-12.1	-10.8	-10.4	-8.8	-8.0
-4.1	-2.9	-1.3	-.5	-.2	.2	.0	.4	.4	-.1	-7.9	-11.7	-11.3	-8.3	-1.9	-.6	.4	.1	-1.8	-7.9	-11.6	-3.2	-.6	-3.4	-3.6	-5.8	-8.2	-10.4	-15.5	-16.8	-12.6	-14.2	-12.8	-9.9	-8.2	-6.6
-7.8	-9.9	-6.8	-3.9	-1.5	-.3	.0	.1	.3	.0	-5.8	-11.8	-12.6	-9.8	-3.3	-.2	.4	.2	-.6	-6.2	-12.9	-10.4	-6.1	-1.4	-.7	-1.8	-2.6	-1.0	-3.1	-9.9	-12.7	-9.8	-5.1	-3.2	-4.3	-6.3
-2.8	-5.8	-6.7	-6.4	-7.1	-5.1	-2.3	-.6	.0	.2	-.4	-4.7	-6.0	-5.2	-5.4	-1.7	-.1	.3	.2	-.5	-4.4	-4.9	-4.8	-1.8	-.5	.2	.3	.4	.5	-.8	-2.6	-3.1	-2.6	-3.1	-1.9	-2.8
-2.3	-1.8	-3.1	-3.0	-4.3	-5.4	-5.7	-3.1	-1.3	-.9	-.2	-2.9	-3.3	-3.0	-4.7	-6.2	-3.7	-1.5	-.8	-.5	-.8	-1.5	-1.5	-2.3	-3.3	-2.1	-.9	-.5	-.5	-.5	-1.3	-2.6	-3.1	-3.8	-3.3	-3.5
-2.4	-1.3	-2.0	-2.4	-2.5	-2.9	-3.1	-3.6	-2.3	-1.8	-2.5	-4.1	-3.0	-2.6	-2.9	-4.0	-4.1	-3.8	-3.7	-2.9	-3.1	-3.2	-3.4	-3.3	-3.3	-3.7	-3.5	-3.0	-2.4	-2.6	-2.6	-3.6	-4.2	-4.3	-4.0	-3.6
-2.8	-2.2	-2.5	-3.0	-3.2	-2.8	-2.8	-3.0	-3.0	-3.1	-3.9	-4.2	-3.5	-3.7	-3.9	-3.8	-4.1	-3.9	-3.8	-3.8	-3.2	-3.1	-3.4	-3.7	-3.9	-3.7	-3.4	-2.7	-2.6	-3.0	-2.9	-4.0	-4.1	-3.6	-3.3	-2.8
-3.4	-3.1	-2.7	-3.2	-3.3	-3.4	-3.4	-3.4	-3.2	-3.2	-3.0	-3.9	-4.2	-3.7	-4.0	-4.0	-4.4	-4.4	-3.6	-3.3	-2.7	-2.0	-1.9	-3.0	-3.0	-2.8	-3.4	-3.4	-3.1	-3.5	-3.5	-3.2	-3.0	-3.3	-3.2	-3.4
-3.1	-2.9	-2.8	-3.2	-3.2	-3.1	-3.8	-3.8	-3.1	-3.0	-3.7	-4.4	-4.5	-3.7	-3.4	-3.2	-2.7	-2.3	-2.1	-2.4	-2.1	-1.8	-2.2	-2.5	-2.7	-2.6	-2.2	-1.9	-1.6	-1.8	-1.9	-1.9	-2.3	-2.9	-2.9	-3.1
-1.8	-1.5	-1.5	-1.4	-1.5	-1.6	-2.0	-2.5	-1.7	-1.4	-1.8	-2.2	-2.0	-1.9	-1.6	-1.1	-.8	-.8	-.9	-1.1	-1.1	-1.0	-1.3	-1.7	-2.0	-1.9	-2.0	-1.9	-1.8	-1.4	-1.4	-1.6	-1.9	-2.3	-2.5	-2.1

Figure 46. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005

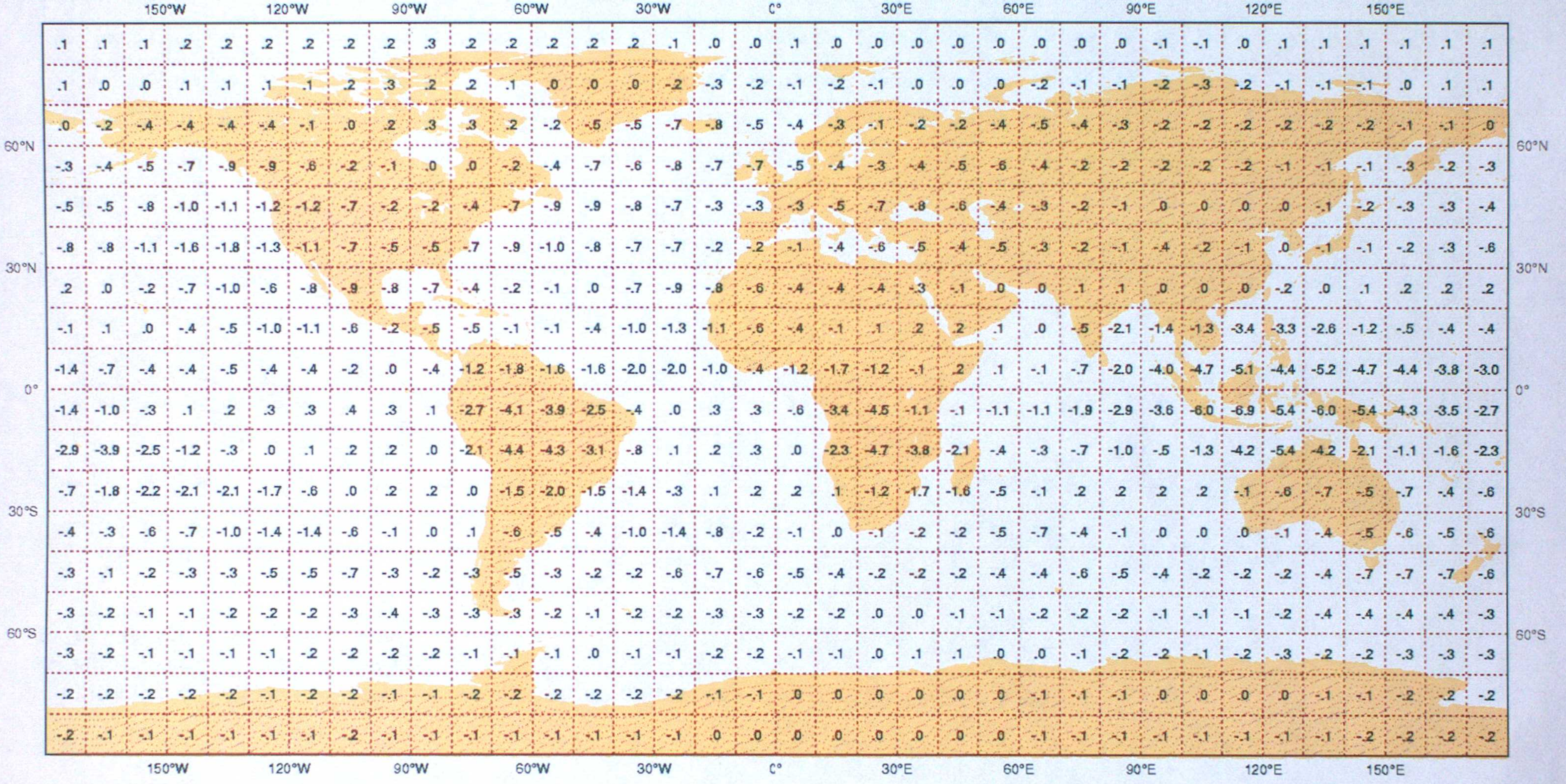
Channel: HIRS11 (500 - 700 hPa)

NOAA16, using all observations



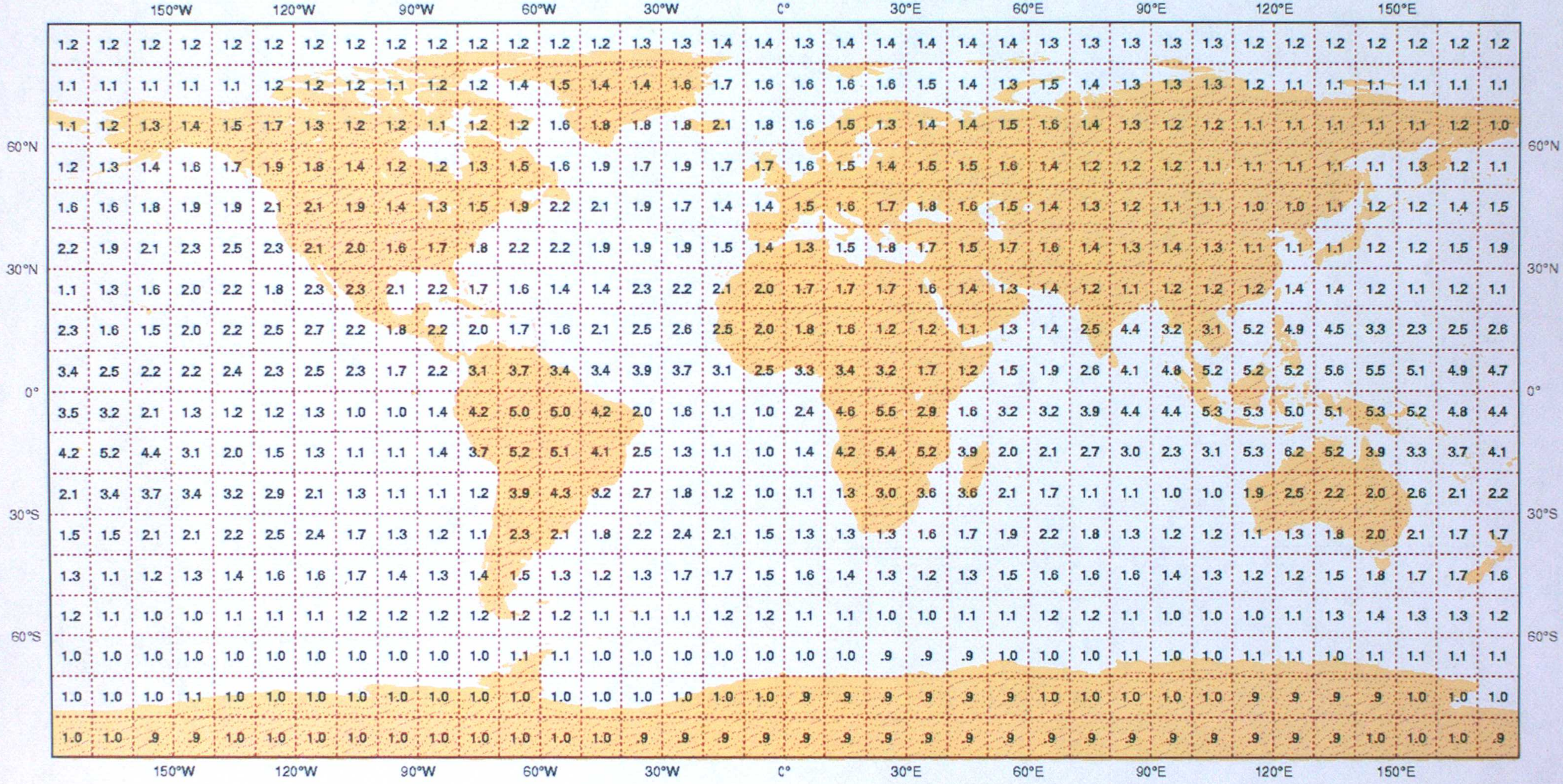
2.6	2.5	2.6	2.5	2.4	2.5	2.5	2.3	2.3	2.7	3.1	3.0	3.2	3.6	4.1	4.3	4.7	4.1	4.1	4.6	4.4	4.6	4.8	4.6	4.0	3.7	3.5	3.9	3.7	3.1	3.0	2.7	2.6	2.5	2.5	2.6
2.2	2.7	2.5	2.8	2.9	2.9	2.8	2.4	2.2	3.1	3.4	5.0	5.7	4.4	3.9	6.2	6.3	5.5	5.3	5.7	5.2	4.6	4.3	4.5	5.2	4.1	3.7	4.1	4.3	3.6	3.2	3.1	2.9	2.7	2.2	2.0
3.6	4.5	6.3	6.4	6.5	6.2	4.4	3.4	2.9	2.6	2.8	4.7	7.1	7.6	7.0	7.4	8.4	7.0	6.0	5.9	4.6	4.8	4.6	5.1	5.5	4.4	3.9	3.7	2.9	2.7	3.3	3.9	3.8	4.6	5.1	3.5
5.3	6.0	6.6	7.3	7.7	7.9	7.0	5.0	4.2	4.0	4.4	5.3	6.6	7.3	7.2	7.5	6.8	6.7	6.0	5.7	5.6	5.9	6.1	5.7	5.2	4.0	3.8	4.4	4.0	3.6	3.8	4.1	4.7	6.2	5.5	5.0
7.7	7.8	8.3	8.5	8.7	8.8	8.4	7.3	5.2	5.2	6.2	7.9	9.0	8.6	8.2	6.8	5.2	5.6	6.2	7.3	7.9	7.6	7.0	6.2	5.8	5.9	5.2	4.1	3.3	3.0	3.1	4.6	6.6	7.2	7.7	8.0
8.6	8.3	9.3	10.0	9.8	9.2	7.9	6.9	6.2	6.9	7.5	8.3	8.6	7.9	7.9	7.4	5.8	5.0	5.0	6.6	7.0	6.6	6.2	6.9	6.0	6.9	5.9	6.2	5.0	3.7	3.2	4.5	5.0	5.8	7.1	7.9
3.2	4.6	6.0	7.5	7.9	6.8	7.9	7.4	7.5	7.6	5.6	5.1	4.5	4.7	8.5	8.5	7.6	6.8	5.8	6.0	5.9	5.9	4.8	4.1	4.2	3.3	3.4	3.7	3.5	3.3	3.8	3.3	2.7	2.7	3.2	2.9
5.2	4.1	4.5	6.8	6.9	8.6	8.4	6.7	5.7	6.7	5.7	4.8	4.1	6.5	8.4	8.4	7.8	6.2	5.8	4.0	3.5	3.4	2.2	3.3	3.3	6.8	12.1	8.8	7.7	13.3	12.9	11.5	8.2	6.0	6.2	6.0
10.1	7.6	6.4	6.9	7.5	7.6	8.0	7.5	5.3	6.9	9.1	10.2	9.7	9.8	11.5	11.4	9.5	7.5	9.8	9.4	8.9	5.0	2.7	3.8	5.3	7.5	10.8	12.8	13.5	13.2	13.4	14.5	14.2	13.4	13.4	13.0
9.4	8.1	5.3	3.3	2.9	2.1	2.9	1.2	1.3	2.9	11.8	13.6	13.9	11.7	5.8	4.7	1.8	1.7	6.8	12.9	15.4	8.7	4.2	9.4	9.4	11.0	12.3	12.2	13.6	13.6	12.9	13.2	13.9	13.5	12.2	11.2
11.9	13.8	11.8	9.1	6.0	3.4	2.5	2.0	2.1	3.0	10.3	14.5	14.2	11.5	7.4	3.2	2.0	1.7	2.9	11.8	15.1	14.2	11.2	5.9	5.7	7.4	8.0	5.6	7.7	13.1	15.5	13.4	10.0	8.8	9.9	11.5
7.2	10.2	10.7	10.0	10.2	8.5	6.1	4.0	2.5	2.0	3.1	12.0	13.3	10.1	9.3	5.8	2.8	1.7	2.4	4.1	9.3	10.2	10.0	6.0	4.6	2.4	2.0	1.4	1.6	4.5	7.3	6.8	6.4	8.7	6.6	7.7
5.5	5.5	7.6	7.2	8.2	8.6	8.5	6.1	4.4	4.1	3.4	9.0	8.3	7.3	8.8	8.9	7.1	5.0	3.9	4.1	4.6	5.7	5.8	7.0	7.7	6.2	4.1	3.4	3.4	3.5	4.5	6.8	7.2	7.7	6.8	6.7
5.0	3.7	4.8	5.3	5.7	6.1	6.2	6.7	5.1	4.4	5.5	6.7	5.6	4.9	5.6	6.8	6.7	6.4	6.3	5.2	5.0	5.5	5.8	6.2	6.6	6.7	6.3	5.5	4.9	5.2	5.2	6.5	7.5	7.5	7.0	6.6
4.8	3.9	3.8	4.1	4.5	4.3	4.4	4.8	4.7	4.7	5.0	5.2	4.4	4.7	5.0	4.9	5.3	5.0	4.7	4.4	3.8	3.8	4.5	4.9	5.2	5.2	4.7	3.7	3.8	3.9	4.5	5.6	5.9	5.8	5.2	5.0
4.0	3.6	3.5	3.7	3.6	3.8	3.8	4.0	4.1	3.9	3.7	4.7	4.1	3.4	3.4	3.8	3.9	3.7	3.2	3.3	2.9	2.9	2.9	3.5	3.6	3.7	3.9	3.8	3.9	4.2	4.1	3.9	4.0	4.3	4.1	4.2
3.5	3.6	3.7	4.6	4.5	4.1	4.1	3.9	3.8	3.7	4.1	4.3	3.9	3.5	3.4	3.5	3.8	3.2	2.6	2.6	2.8	2.7	2.8	3.0	3.7	3.9	2.9	2.4	2.3	2.2	2.4	2.3	2.8	3.4	3.9	3.5
3.5	3.3	3.0	3.1	3.5	3.0	3.1	3.3	2.9	2.7	3.1	3.3	3.1	2.8	2.5	2.4	2.1	1.8	1.9	2.1	2.2	2.0	2.1	2.2	2.3	2.4	2.3	2.2	2.1	2.2	2.4	2.8	3.1	3.9	3.9	3.6

Figure 47. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS4 (400 hPa)
NOAA16, using all observations



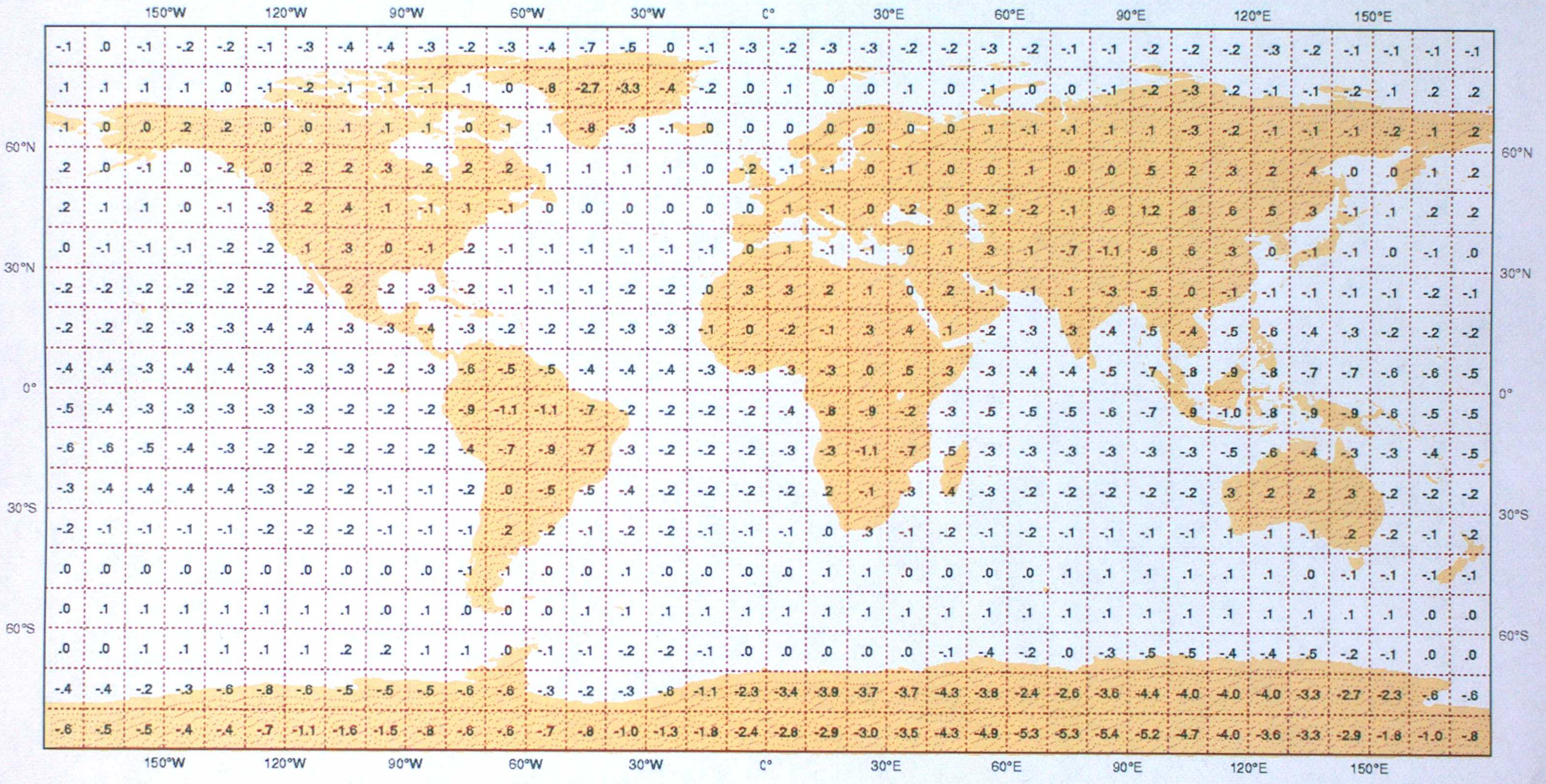
.1	.1	.1	.2	.2	.2	.2	.2	.2	.3	.2	.2	.2	.2	.2	.1	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	.0	.1	.1	.1	.1	.1	.1
.1	.0	.0	.1	.1	.1	.1	.2	.3	.2	.2	.1	.0	.0	.0	-.2	-.3	-.2	-.1	-.2	-.1	.0	.0	.0	-.2	-.1	-.1	-.2	-.3	-.2	-.1	-.1	-.1	.0	.1	.1
.0	-.2	-.4	-.4	-.4	-.4	-.1	.0	.2	.3	.3	.2	-.2	-.5	-.5	-.7	-.8	-.5	-.4	-.3	-.1	-.2	-.2	-.4	-.5	-.4	-.3	-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.1	.0
-.3	-.4	-.5	-.7	-.9	-.9	-.6	-.2	-.1	.0	.0	-.2	-.4	-.7	-.6	-.8	-.7	-.7	-.5	-.4	-.3	-.4	-.5	-.6	-.4	-.2	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.3	-.2	-.3
-.5	-.5	-.8	-1.0	-1.1	-1.2	-1.2	-.7	-.2	-.2	-.4	-.7	-.9	-.9	-.8	-.7	-.3	-.3	-.3	-.5	-.7	-.8	-.6	-.4	-.3	-.2	-.1	.0	.0	.0	.0	-.1	-.2	-.3	-.3	-.4
-.8	-.8	-1.1	-1.6	-1.8	-1.3	-1.1	-.7	-.5	-.5	-.7	-.9	-1.0	-.8	-.7	-.7	-.2	-.2	-.1	-.4	-.6	-.5	-.4	-.5	-.3	-.2	-.1	-.4	-.2	-.1	.0	-.1	-.1	-.2	-.3	-.6
.2	.0	-.2	-.7	-1.0	-.6	-.8	-.9	-.8	-.7	-.4	-.2	-.1	.0	-.7	-.9	-.8	-.6	-.4	-.4	-.4	-.3	-.1	.0	.0	.1	.1	.0	.0	.0	-.2	.0	.1	.2	.2	.2
-.1	.1	.0	-.4	-.5	-1.0	-1.1	-.6	-.2	-.5	-.5	-.1	-.1	-.4	-1.0	-1.3	-1.1	-.6	-.4	-.1	.1	.2	.2	.1	.0	-.5	-2.1	-1.4	-1.3	-3.4	-3.3	-2.6	-1.2	-.5	-.4	-.4
-1.4	-.7	-.4	-.4	-.5	-.4	-.4	-.2	.0	-.4	-1.2	-1.8	-1.6	-1.6	-2.0	-2.0	-1.0	-.4	-1.2	-1.7	-1.2	-.1	.2	.1	-.1	-.7	-2.0	-4.0	-4.7	-5.1	-4.4	-5.2	-4.7	-4.4	-3.8	-3.0
-1.4	-1.0	-.3	.1	.2	.3	.3	.4	.3	.1	-2.7	-4.1	-3.9	-2.5	-.4	.0	.3	.3	-.6	-3.4	-4.5	-1.1	-.1	-1.1	-1.1	-1.9	-2.9	-3.6	-6.0	-6.9	-5.4	-6.0	-5.4	-4.3	-3.5	-2.7
-2.9	-3.9	-2.5	-1.2	-.3	.0	.1	.2	.2	.0	-2.1	-4.4	-4.3	-3.1	-.8	.1	.2	.3	.0	-2.3	-4.7	-3.8	-2.1	-.4	-.3	-.7	-1.0	-.5	-1.3	-4.2	-5.4	-4.2	-2.1	-1.1	-1.6	-2.3
-.7	-1.8	-2.2	-2.1	-2.1	-1.7	-.6	.0	.2	.2	.0	-1.5	-2.0	-1.5	-1.4	-.3	.1	.2	.2	.1	-1.2	-1.7	-1.6	-.5	-.1	.2	.2	.2	.2	-.1	-.6	-.7	-.5	-.7	-.4	-.6
-.4	-.3	-.6	-.7	-1.0	-1.4	-1.4	-.6	-.1	.0	.1	-.6	-.5	-.4	-1.0	-1.4	-.8	-.2	-.1	.0	-.1	-.2	-.2	-.5	-.7	-.4	-.1	.0	.0	.0	-.1	-.4	-.5	-.6	-.5	-.6
-.3	-.1	-.2	-.3	-.3	-.5	-.5	-.7	-.3	-.2	-.3	-.5	-.3	-.2	-.2	-.6	-.7	-.6	-.5	-.4	-.2	-.2	-.2	-.4	-.4	-.6	-.5	-.4	-.2	-.2	-.2	-.4	-.7	-.7	-.7	-.6
-.3	-.2	-.1	-.1	-.2	-.2	-.2	-.3	-.4	-.3	-.3	-.3	-.2	-.1	-.2	-.2	-.3	-.3	-.2	-.2	.0	.0	-.1	-.1	-.2	-.2	-.2	-.1	-.1	-.1	-.2	-.4	-.4	-.4	-.4	-.3
-.3	-.2	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.1	-.1	-.1	.0	-.1	-.1	-.2	-.2	-.1	-.1	.0	.1	.1	.0	.0	-.1	-.2	-.2	-.1	-.2	-.3	-.2	-.2	-.3	-.3	-.3
-.2	-.2	-.2	-.2	-.2	-.1	-.2	-.2	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.1	.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	.0	.0	.0	.0	-.1	-.1	-.2	-.2	-.2
-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2

Figure 48. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS4 (400 hPa)
NOAA16, using all observations



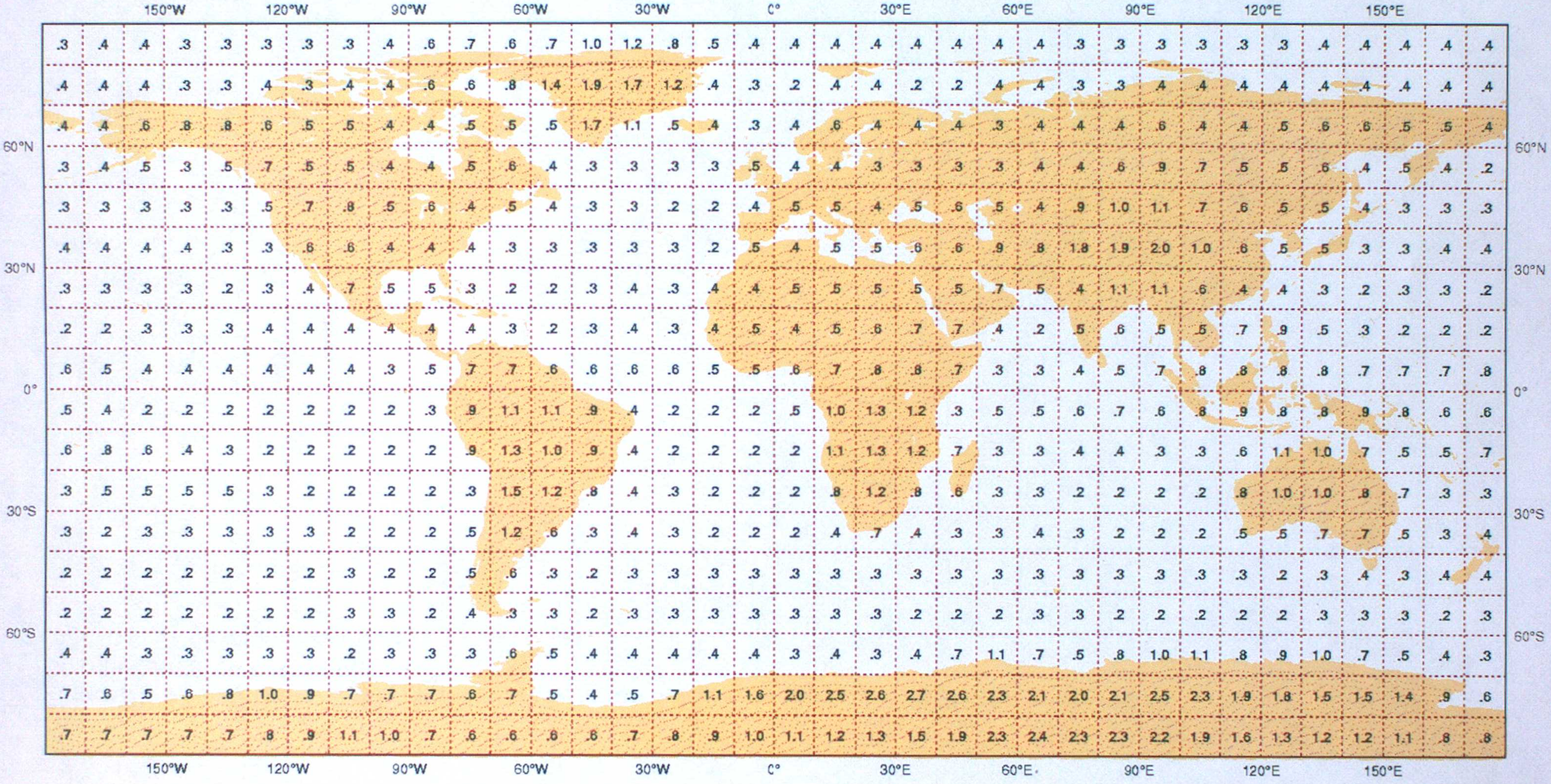
1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.4	1.4	1.3	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2
1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.1	1.2	1.2	1.4	1.5	1.4	1.4	1.6	1.7	1.6	1.6	1.6	1.6	1.5	1.4	1.3	1.5	1.4	1.3	1.3	1.3	1.2	1.1	1.1	1.1	1.1	1.1	1.1
1.1	1.2	1.3	1.4	1.5	1.7	1.3	1.2	1.2	1.1	1.2	1.2	1.6	1.8	1.8	1.8	2.1	1.8	1.6	1.5	1.3	1.4	1.4	1.5	1.6	1.4	1.3	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.2	1.0
1.2	1.3	1.4	1.6	1.7	1.9	1.8	1.4	1.2	1.2	1.3	1.5	1.6	1.9	1.7	1.9	1.7	1.7	1.6	1.5	1.4	1.5	1.5	1.6	1.4	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.3	1.2	1.1
1.6	1.6	1.8	1.9	1.9	2.1	2.1	1.9	1.4	1.3	1.5	1.9	2.2	2.1	1.9	1.7	1.4	1.4	1.5	1.6	1.7	1.8	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.0	1.0	1.1	1.2	1.2	1.4	1.5
2.2	1.9	2.1	2.3	2.5	2.3	2.1	2.0	1.6	1.7	1.8	2.2	2.2	1.9	1.9	1.9	1.5	1.4	1.3	1.5	1.8	1.7	1.5	1.7	1.6	1.4	1.3	1.4	1.3	1.1	1.1	1.1	1.2	1.2	1.5	1.9
1.1	1.3	1.6	2.0	2.2	1.8	2.3	2.3	2.1	2.2	1.7	1.6	1.4	1.4	2.3	2.2	2.1	2.0	1.7	1.7	1.7	1.6	1.4	1.3	1.4	1.2	1.1	1.2	1.2	1.2	1.4	1.4	1.2	1.1	1.2	1.1
2.3	1.6	1.5	2.0	2.2	2.5	2.7	2.2	1.8	2.2	2.0	1.7	1.6	2.1	2.5	2.6	2.5	2.0	1.8	1.6	1.2	1.2	1.1	1.3	1.4	2.5	4.4	3.2	3.1	5.2	4.9	4.5	3.3	2.3	2.5	2.6
3.4	2.5	2.2	2.2	2.4	2.3	2.5	2.3	1.7	2.2	3.1	3.7	3.4	3.4	3.9	3.7	3.1	2.5	3.3	3.4	3.2	1.7	1.2	1.5	1.9	2.6	4.1	4.8	5.2	5.2	5.2	5.6	5.5	5.1	4.9	4.7
3.5	3.2	2.1	1.3	1.2	1.2	1.3	1.0	1.0	1.4	4.2	5.0	5.0	4.2	2.0	1.6	1.1	1.0	2.4	4.6	5.5	2.9	1.6	3.2	3.2	3.9	4.4	4.4	5.3	5.3	5.0	5.1	5.3	5.2	4.8	4.4
4.2	5.2	4.4	3.1	2.0	1.5	1.3	1.1	1.1	1.4	3.7	5.2	5.1	4.1	2.5	1.3	1.1	1.0	1.4	4.2	5.4	5.2	3.9	2.0	2.1	2.7	3.0	2.3	3.1	5.3	6.2	5.2	3.9	3.3	3.7	4.1
2.1	3.4	3.7	3.4	3.2	2.9	2.1	1.3	1.1	1.1	1.2	3.9	4.3	3.2	2.7	1.8	1.2	1.0	1.1	1.3	3.0	3.6	3.6	2.1	1.7	1.1	1.1	1.0	1.0	1.9	2.5	2.2	2.0	2.6	2.1	2.2
1.5	1.5	2.1	2.1	2.2	2.5	2.4	1.7	1.3	1.2	1.1	2.3	2.1	1.8	2.2	2.4	2.1	1.5	1.3	1.3	1.3	1.6	1.7	1.9	2.2	1.8	1.3	1.2	1.2	1.1	1.3	1.8	2.0	2.1	1.7	1.7
1.3	1.1	1.2	1.3	1.4	1.6	1.6	1.7	1.4	1.3	1.4	1.5	1.3	1.2	1.3	1.7	1.7	1.5	1.6	1.4	1.3	1.2	1.3	1.5	1.6	1.6	1.6	1.4	1.3	1.2	1.2	1.5	1.8	1.7	1.7	1.6
1.2	1.1	1.0	1.0	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.2	1.2	1.1	1.1	1.0	1.0	1.1	1.1	1.2	1.2	1.1	1.0	1.0	1.0	1.1	1.3	1.4	1.3	1.3	1.2
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.9	.9	.9	1.0	1.0	1.0	1.1	1.0	1.0	1.1	1.1	1.0	1.1	1.1	1.1	1.1
1.0	1.0	1.0	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.9	.9	.9	.9	.9	.9	1.0	1.0	1.0	1.0	1.0	.9	.9	.9	.9	1.0	1.0	1.0
1.0	1.0	.9	.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	1.0	1.0	1.0	.9

Figure 49. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: AMSUA-5 (700 hPa)
NOAA16, using all observations



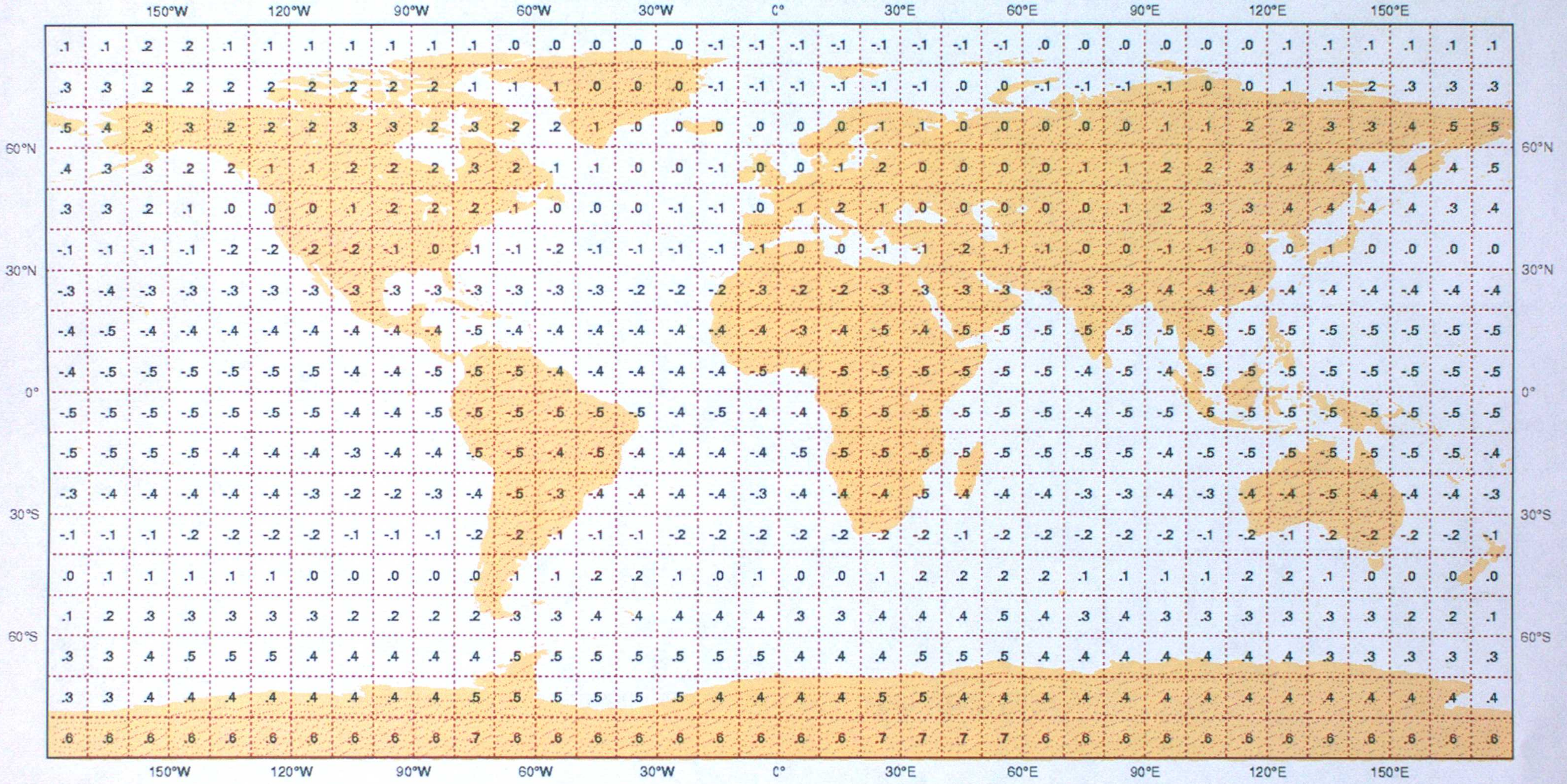
-.1	.0	-.1	-.2	-.2	-.1	-.3	-.4	-.4	-.3	-.2	-.3	-.4	-.7	-.5	.0	-.1	-.3	-.2	-.3	-.3	-.2	-.2	-.3	-.2	-.1	-.1	-.2	-.2	-.2	-.3	-.2	-.1	-.1	-.1	-.1
.1	.1	.1	.1	.0	-.1	-.2	-.1	-.1	-.1	.1	.0	-.8	-2.7	-3.3	-.4	-.2	.0	.1	.0	.0	.1	.0	-.1	.0	.0	-.1	-.2	-.3	-.2	-.1	-.1	-.2	.1	.2	.2
.1	.0	.0	.2	.2	.0	.0	.1	.1	.1	.0	.1	.1	-.8	-.3	-.1	.0	.0	.0	.0	.0	.0	.0	.1	-.1	-.1	.1	.1	-.3	-.2	-.1	-.1	-.1	-.2	.1	.2
.2	.0	-.1	.0	-.2	.0	.2	.2	.3	.2	.2	.2	.1	.1	.1	.1	.0	-.2	-.1	-.1	.0	.1	.0	.0	.1	.0	.0	.5	.2	.3	.2	.4	.0	.0	.1	.2
.2	.1	.1	.0	-.1	-.3	.2	.4	.1	-.1	.1	-.1	.0	.0	.0	.0	.0	.0	.1	-.1	.0	-.2	.0	-.2	-.2	-.1	.6	1.2	.8	.6	.5	.3	-.1	.1	.2	.2
.0	-.1	-.1	-.1	-.2	-.2	.1	.3	.0	-.1	-.2	-.1	-.1	-.1	-.1	-.1	-.1	.0	.1	-.1	-.1	.0	.1	.3	.1	-.7	-1.1	-.6	.6	.3	.0	-.1	-.1	.0	-.1	.0
-.2	-.2	-.2	-.2	-.2	-.2	-.2	.2	-.2	-.3	-.2	-.1	-.1	-.1	-.2	-.2	.0	.3	.3	.2	.1	.0	.2	-.1	-.1	.1	-.3	-.5	.0	-.1	-.1	-.1	-.1	-.1	-.2	-.1
-.2	-.2	-.2	-.3	-.3	-.4	-.4	-.3	-.3	-.4	-.3	-.2	-.2	-.2	-.3	-.3	-.1	.0	-.2	-.1	.3	.4	.1	-.2	-.3	-.3	-.4	-.5	-.4	-.5	-.6	-.4	-.3	-.2	-.2	-.2
-.4	-.4	-.3	-.4	-.4	-.3	-.3	-.3	-.2	-.3	-.6	-.5	-.5	-.4	-.4	-.4	-.3	-.3	-.3	-.3	.0	.5	.3	-.3	-.4	-.4	-.5	-.7	-.8	-.9	-.8	-.7	-.7	-.6	-.6	-.5
-.5	-.4	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.9	-1.1	-1.1	-.7	-.2	-.2	-.2	-.2	-.4	-.8	-.9	-.2	-.3	-.5	-.5	-.5	-.6	-.7	-.9	-1.0	-.8	-.9	-.9	-.6	-.5	-.5
-.6	-.6	-.5	-.4	-.3	-.2	-.2	-.2	-.2	-.2	-.4	-.7	-.9	-.7	-.3	-.2	-.2	-.2	-.3	-.3	-1.1	-.7	-.5	-.3	-.3	-.3	-.3	-.3	-.3	-.5	-.6	-.4	-.3	-.3	-.4	-.5
-.3	-.4	-.4	-.4	-.4	-.3	-.2	-.2	-.1	-.1	-.2	.0	-.5	-.5	-.4	-.2	-.2	-.2	-.2	.2	-.1	-.3	-.4	-.3	-.2	-.2	-.2	-.2	-.2	.3	.2	.2	.3	-.2	-.2	-.2
-.2	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.1	-.1	-.1	.2	-.2	-.1	-.2	-.2	-.1	-.1	-.1	.0	.3	-.1	-.2	-.1	-.2	-.1	-.1	-.1	-.1	.1	.1	-.1	.2	-.2	-.1	-.2
.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-.1	.1	.0	.0	.1	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	-.1	-.1	-.1	-.1
.0	.1	.1	.1	.1	.1	.1	.1	.0	.1	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0
.0	.0	.1	.1	.1	.1	.1	.2	.2	.1	.1	.0	-.1	-.1	-.2	-.2	-.1	.0	.0	.0	.0	.0	-.1	-.4	-.2	.0	-.3	-.5	-.5	-.4	-.4	-.5	-.2	-.1	.0	.0
-.4	-.4	-.2	-.3	-.6	-.8	-.6	-.5	-.5	-.5	-.6	-.6	-.3	-.2	-.3	-.6	-1.1	-2.3	-3.4	-3.9	-3.7	-3.7	-4.3	-3.8	-2.4	-2.6	-3.6	-4.4	-4.0	-4.0	-4.0	-3.3	-2.7	-2.3	-.6	-.6
-.6	-.5	-.5	-.4	-.4	-.7	-1.1	-1.6	-1.5	-.8	-.6	-.6	-.7	-.8	-1.0	-1.3	-1.8	-2.4	-2.8	-2.9	-3.0	-3.5	-4.3	-4.9	-5.3	-5.3	-5.4	-5.2	-4.7	-4.0	-3.6	-3.3	-2.9	-1.8	-1.0	-.8

Figure 50. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: AMSUA-5 (700 hPa)
NOAA16, using all observations



.3	.4	.4	.3	.3	.3	.3	.3	.4	.6	.7	.6	.7	1.0	1.2	.8	.5	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.4
.4	.4	.4	.3	.3	.4	.3	.4	.4	.6	.6	.8	1.4	1.9	1.7	1.2	.4	.3	.2	.4	.4	.2	.2	.4	.4	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4
.4	.4	.6	.8	.8	.6	.5	.5	.4	.4	.5	.5	.5	1.7	1.1	.5	.4	.3	.4	.6	.4	.4	.4	.3	.4	.4	.4	.4	.6	.4	.4	.5	.6	.6	.5	.5	.4
.3	.4	.5	.3	.5	.7	.5	.5	.4	.4	.5	.6	.4	.3	.3	.3	.3	.5	.4	.4	.3	.3	.3	.3	.4	.4	.6	.9	.7	.5	.5	.6	.4	.5	.4	.2
.3	.3	.3	.3	.3	.5	.7	.8	.5	.6	.4	.5	.4	.3	.3	.2	.2	.4	.5	.5	.4	.5	.6	.5	.4	.9	1.0	1.1	.7	.6	.5	.5	.4	.3	.3	.3
.4	.4	.4	.4	.3	.3	.6	.6	.4	.4	.4	.3	.3	.3	.3	.3	.2	.5	.4	.5	.5	.6	.6	.9	.8	1.8	1.9	2.0	1.0	.6	.5	.5	.3	.3	.4	.4
.3	.3	.3	.3	.2	.3	.4	.7	.5	.5	.3	.2	.2	.3	.4	.3	.4	.4	.5	.5	.5	.5	.5	.7	.5	.4	1.1	1.1	.6	.4	.4	.3	.2	.3	.3	.2
.2	.2	.3	.3	.3	.4	.4	.4	.4	.4	.4	.3	.2	.3	.4	.3	.4	.5	.4	.5	.6	.7	.7	.4	.2	.5	.6	.5	.5	.7	.9	.5	.3	.2	.2	.2
.6	.5	.4	.4	.4	.4	.4	.4	.3	.5	.7	.7	.6	.6	.6	.6	.5	.5	.6	.7	.8	.8	.7	.3	.3	.4	.5	.7	.8	.8	.8	.8	.7	.7	.7	.8
.5	.4	.2	.2	.2	.2	.2	.2	.2	.3	.9	1.1	1.1	.9	.4	.2	.2	.2	.5	1.0	1.3	1.2	.3	.5	.5	.6	.7	.6	.8	.9	.8	.8	.9	.8	.6	.6
.6	.8	.6	.4	.3	.2	.2	.2	.2	.2	.9	1.3	1.0	.9	.4	.2	.2	.2	.2	1.1	1.3	1.2	.7	.3	.3	.4	.4	.3	.3	.6	1.1	1.0	.7	.5	.5	.7
.3	.5	.5	.5	.5	.3	.2	.2	.2	.2	.3	1.5	1.2	.8	.4	.3	.2	.2	.2	.8	1.2	.8	.6	.3	.3	.2	.2	.2	.2	.8	1.0	1.0	.8	.7	.3	.3
.3	.2	.3	.3	.3	.3	.3	.2	.2	.2	.5	1.2	.6	.3	.4	.3	.2	.2	.2	.4	.7	.4	.3	.3	.4	.3	.2	.2	.2	.5	.5	.7	.7	.5	.3	.4
.2	.2	.2	.2	.2	.2	.2	.3	.2	.2	.5	.6	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.3	.4	.3	.4	.4
.2	.2	.2	.2	.2	.2	.2	.3	.3	.2	.4	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.3	.3	.2	.2	.2	.2	.2	.3	.3	.3	.2	.3
.4	.4	.3	.3	.3	.3	.3	.2	.3	.3	.3	.6	.5	.4	.4	.4	.4	.4	.3	.4	.3	.4	.7	1.1	.7	.5	.8	1.0	1.1	.8	.9	1.0	.7	.5	.4	.3
.7	.6	.5	.6	.8	1.0	.9	.7	.7	.7	.6	.7	.5	.4	.5	.7	1.1	1.6	2.0	2.5	2.6	2.7	2.6	2.3	2.1	2.0	2.1	2.5	2.3	1.9	1.8	1.5	1.5	1.4	.9	.6
.7	.7	.7	.7	.7	.8	.9	1.1	1.0	.7	.6	.6	.6	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.5	1.9	2.3	2.4	2.3	2.3	2.2	1.9	1.6	1.3	1.2	1.2	1.1	.8	.8

Figure 51. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: AMSUA-7 (300 hPa)
NOAA16, using all observations



.1	.1	.2	.2	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1
.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0	-.1	-.1	-.1	-.1	.0	.0	.1	.1	.2	.3	.3	.3
.5	.4	.3	.3	.2	.2	.2	.3	.3	.2	.3	.2	.2	.1	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.1	.1	.2	.2	.3	.3	.4	.5	.5
.4	.3	.3	.2	.2	.1	.1	.2	.2	.2	.3	.2	.1	.1	.0	.0	-.1	.0	.0	.1	.2	.0	.0	.0	.0	.1	.1	.2	.2	.3	.4	.4	.4	.4	.4	.5
.3	.3	.2	.1	.0	.0	.0	.1	.2	.2	.2	.1	.0	.0	.0	-.1	-.1	.0	.1	.2	.1	.0	.0	.0	.0	.0	.1	.2	.3	.3	.4	.4	.4	.4	.3	.4
-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.1	.0	-.1	-.1	-.2	-.1	-.1	-.1	-.1	-.1	.0	.0	-.1	-.1	-.2	-.1	-.1	.0	.0	-.1	-.1	.0	.0	.1	.0	.0	.0	.0
-.3	-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.3	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4
-.4	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.4	-.5	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5
-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.5	-.5	-.5	-.4	-.4	-.4	-.4	-.4	-.5	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.5	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5
-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.5	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5
-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.3	-.4	-.4	-.5	-.5	-.4	-.5	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.4
-.3	-.4	-.4	-.4	-.4	-.4	-.3	-.2	-.2	-.3	-.4	-.5	-.3	-.4	-.4	-.4	-.4	-.3	-.4	-.4	-.4	-.5	-.4	-.4	-.4	-.3	-.3	-.4	-.3	-.4	-.4	-.5	-.4	-.4	-.4	-.3
-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.2	-.2	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.2	-.2	-.2	-.2	-.2	-.1	-.2	-.1	-.2	-.2	-.2	-.2	-.1
.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.1	.1	.2	.2	.1	.0	.1	.0	.0	.1	.2	.2	.2	.2	.1	.1	.1	.1	.2	.2	.1	.0	.0	.0	.0
.1	.2	.3	.3	.3	.3	.3	.2	.2	.2	.2	.3	.3	.4	.4	.4	.4	.4	.3	.3	.4	.4	.4	.5	.4	.3	.4	.3	.3	.3	.3	.3	.3	.2	.2	.1
.3	.3	.4	.5	.5	.5	.4	.4	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3
.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.5	.5	.4	.4	.4	.4	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.7	.6	.6	.6	.6	.6	.6	.6	.6	.6	.7	.7	.7	.7	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6

Figure 52. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: AMSUA-7 (300 hPa)
NOAA16, using all observations

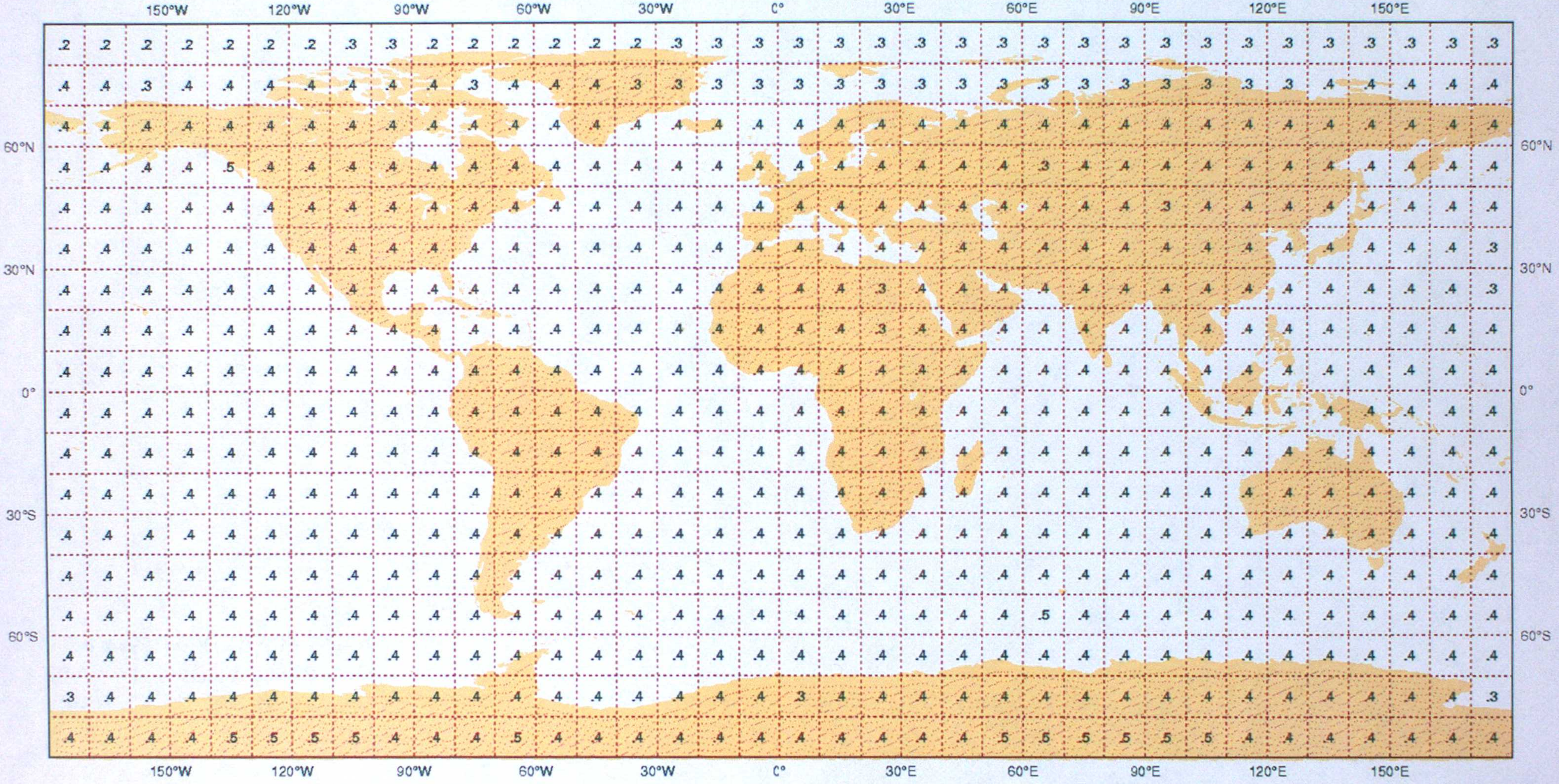
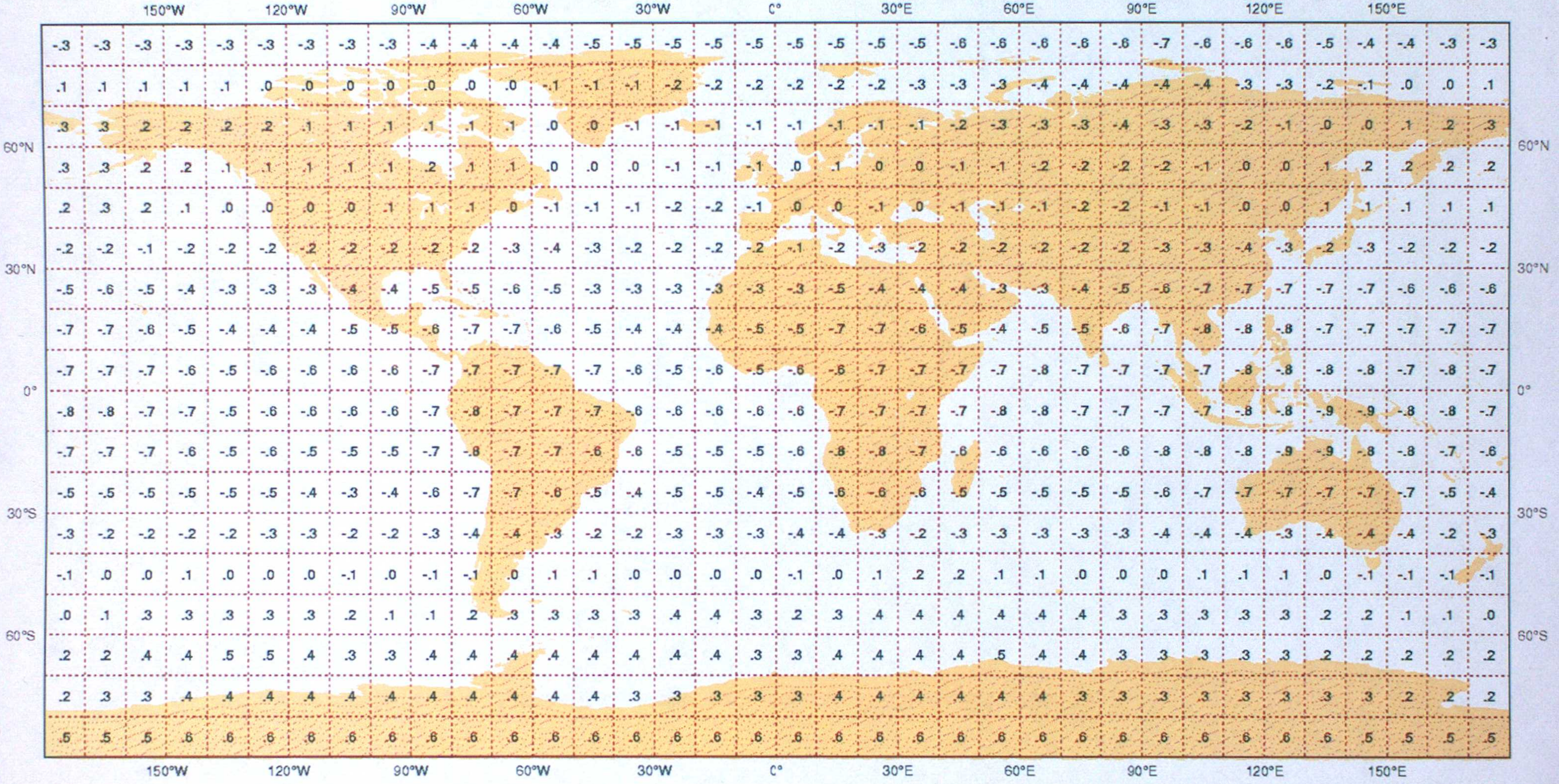

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
.2 .2 .2 .2 .2 .2 .2 .3 .3 .2 .2 .2 .2 .2 .2 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.3 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3
.4 .4 .4 .4 .5 .5 .5 .5 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .5 .5 .5 .5 .5 .4 .4 .4 .4 .4 .4 .4

Figure 53. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: AMSUA-9 (100 hPa)
NOAA16, using all observations



-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.7	-.6	-.6	-.6	-.5	-.4	-.4	-.3	-.3
.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.2	-.1	.0	.0	.1
.3	.3	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.0	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.3	-.3	-.3	-.4	-.3	-.3	-.2	-.1	.0	.0	.1	.2	.3
.3	.3	.2	.2	.1	.1	.1	.1	.1	.2	.1	.1	.0	.0	.0	-.1	-.1	-.1	.0	.1	.0	.0	-.1	-.1	-.2	-.2	-.2	-.2	-.1	.0	.0	.1	.2	.2	.2	.2
.2	.3	.2	.1	.0	.0	.0	.0	.1	.1	.1	.0	-.1	-.1	-.1	-.2	-.2	-.1	.0	.0	-.1	.0	-.1	-.1	-.1	-.2	-.2	-.1	-.1	.0	.0	.1	.1	.1	.1	.1
-.2	-.2	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.4	-.3	-.2	-.2	-.2	-.2	-.1	-.2	-.3	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.4	-.3	-.2	-.3	-.2	-.2	-.2
-.5	-.6	-.5	-.4	-.3	-.3	-.3	-.4	-.4	-.5	-.5	-.6	-.5	-.3	-.3	-.3	-.3	-.3	-.3	-.5	-.4	-.4	-.4	-.3	-.3	-.4	-.5	-.6	-.7	-.7	-.7	-.7	-.7	-.6	-.6	-.6
-.7	-.7	-.6	-.5	-.4	-.4	-.4	-.5	-.5	-.6	-.7	-.7	-.6	-.5	-.4	-.4	-.4	-.5	-.5	-.7	-.7	-.6	-.5	-.4	-.5	-.5	-.6	-.7	-.8	-.8	-.8	-.7	-.7	-.7	-.7	-.7
-.7	-.7	-.7	-.6	-.5	-.6	-.6	-.6	-.6	-.7	-.7	-.7	-.7	-.7	-.6	-.5	-.6	-.5	-.6	-.6	-.7	-.7	-.7	-.7	-.8	-.7	-.7	-.7	-.7	-.8	-.8	-.8	-.8	-.7	-.8	-.7
-.8	-.8	-.7	-.7	-.5	-.6	-.6	-.6	-.6	-.7	-.8	-.7	-.7	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.7	-.7	-.7	-.8	-.8	-.7	-.7	-.7	-.7	-.8	-.8	-.9	-.9	-.8	-.8	-.7
-.7	-.7	-.7	-.6	-.5	-.6	-.5	-.5	-.5	-.7	-.8	-.7	-.7	-.6	-.6	-.5	-.5	-.5	-.6	-.8	-.8	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.8	-.8	-.8	-.9	-.9	-.8	-.8	-.7	-.6
-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.3	-.4	-.6	-.7	-.7	-.6	-.5	-.4	-.5	-.5	-.4	-.5	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.5	-.6	-.7	-.7	-.7	-.7	-.7	-.7	-.5	-.4
-.3	-.2	-.2	-.2	-.2	-.3	-.3	-.2	-.2	-.3	-.4	-.4	-.3	-.2	-.2	-.3	-.3	-.3	-.4	-.4	-.3	-.2	-.3	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.3	-.4	-.4	-.4	-.2	-.3
-.1	.0	.0	.1	.0	.0	.0	-.1	.0	-.1	-.1	.0	.1	.1	.0	.0	.0	.0	-.1	.0	.1	.2	.2	.1	.1	.0	.0	.0	.1	.1	.1	.0	-.1	-.1	-.1	-.1
.0	.1	.3	.3	.3	.3	.3	.2	.1	.1	.2	.3	.3	.3	.4	.4	.3	.2	.3	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.2	.2	.1	.1	.0
.2	.2	.4	.4	.5	.5	.4	.3	.3	.4	.4	.4	.4	.4	.4	.4	.3	.3	.4	.4	.4	.4	.5	.4	.4	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2
.2	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2
.5	.5	.5	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.5	.5	.5	.5

Figure 54. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: AMSUA-9 (100 hPa)
NOAA16, using all observations

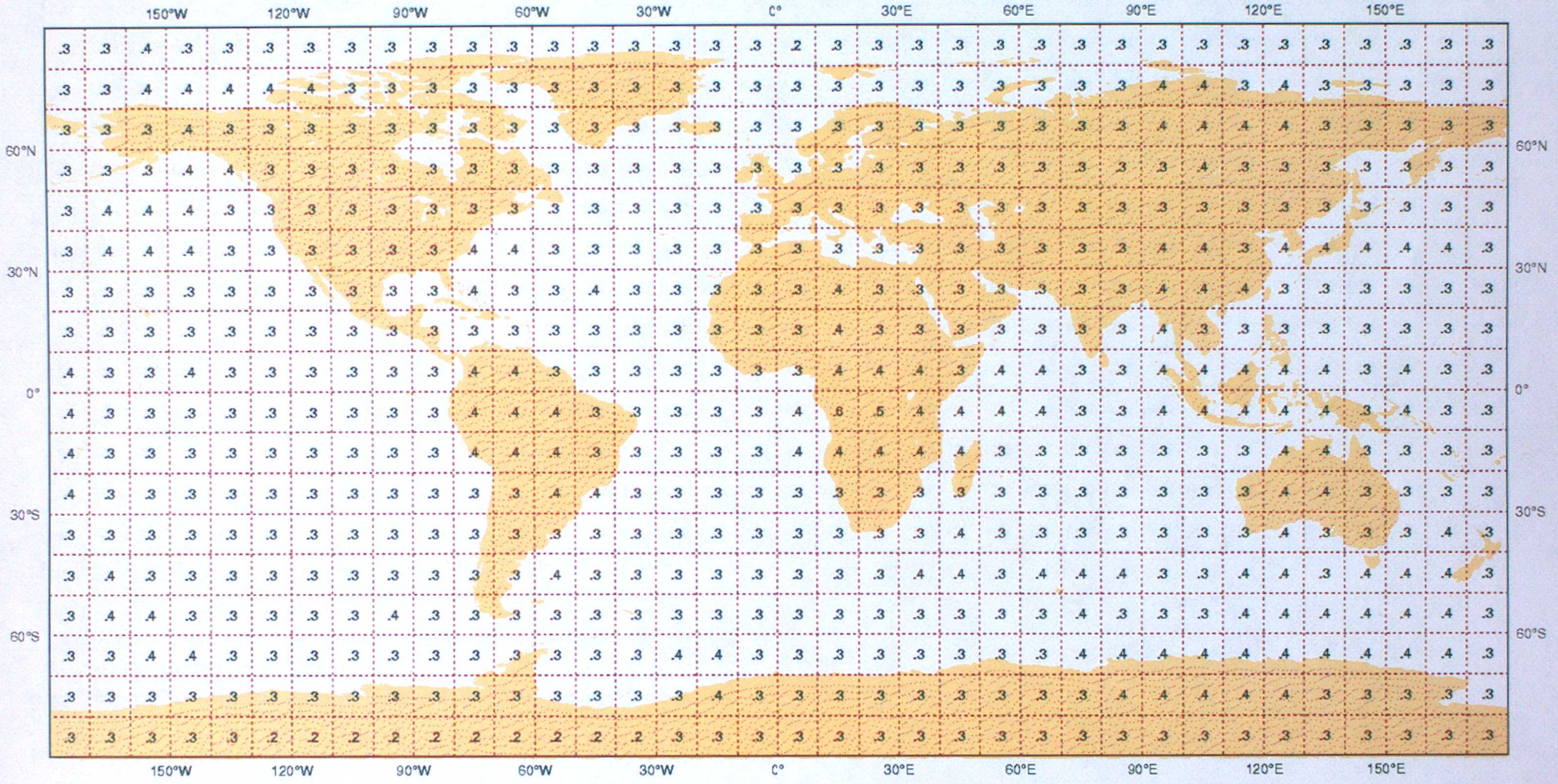
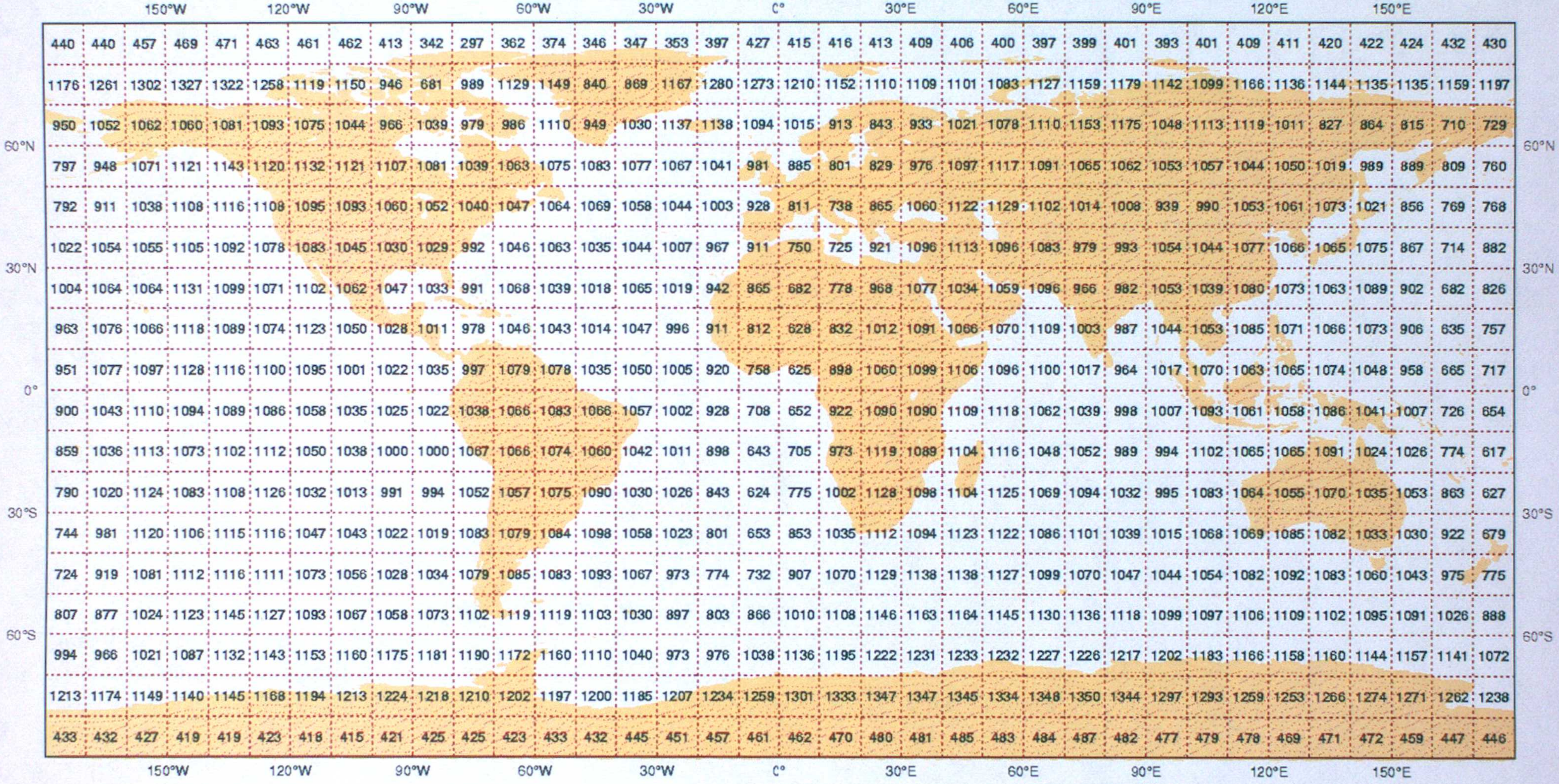
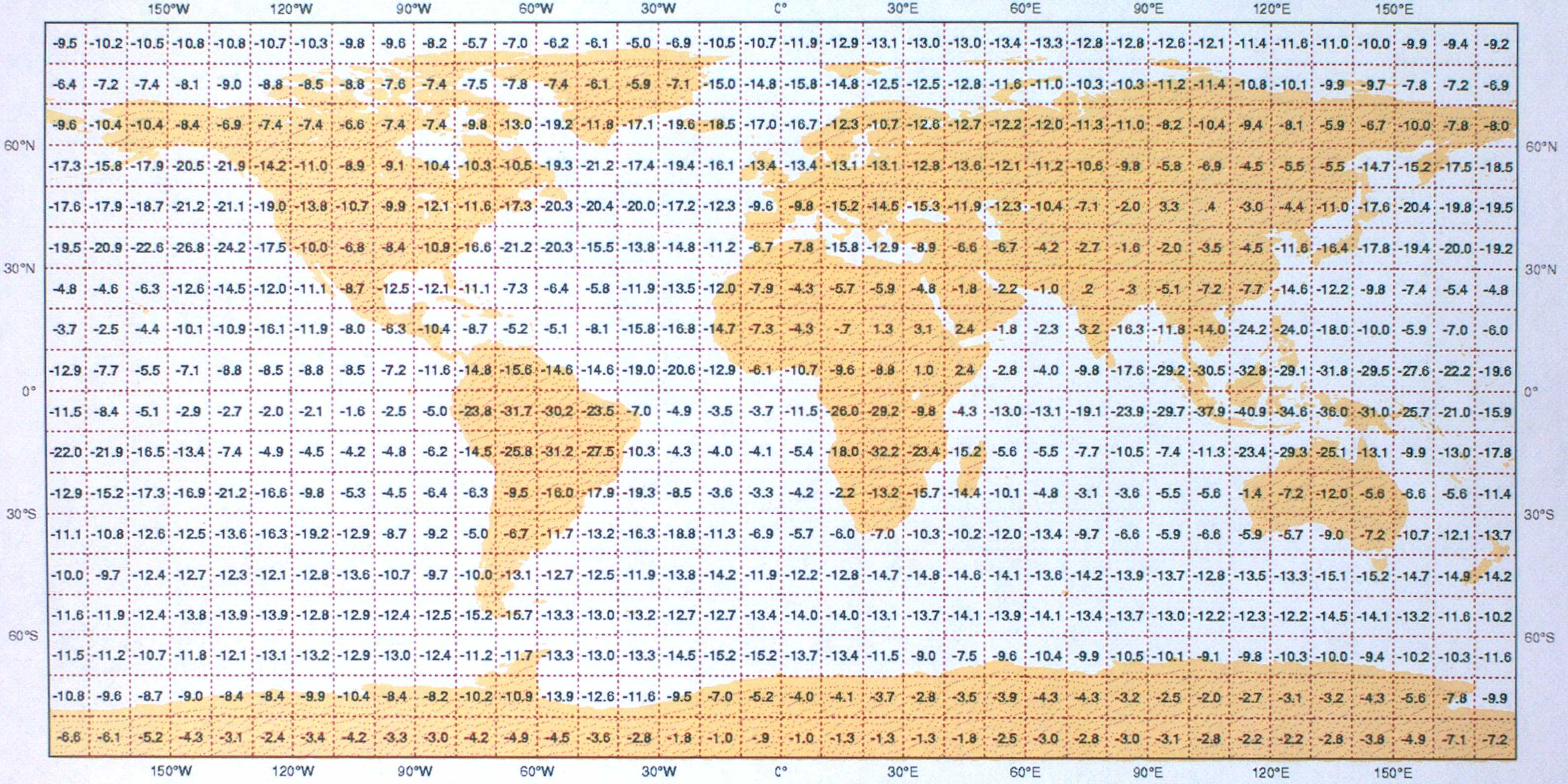

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S

Figure 55. ATOVS mean daily count. DECEMBER 2005
NOAA18, using all observations
Global average number of observations in 24 hours = 631984



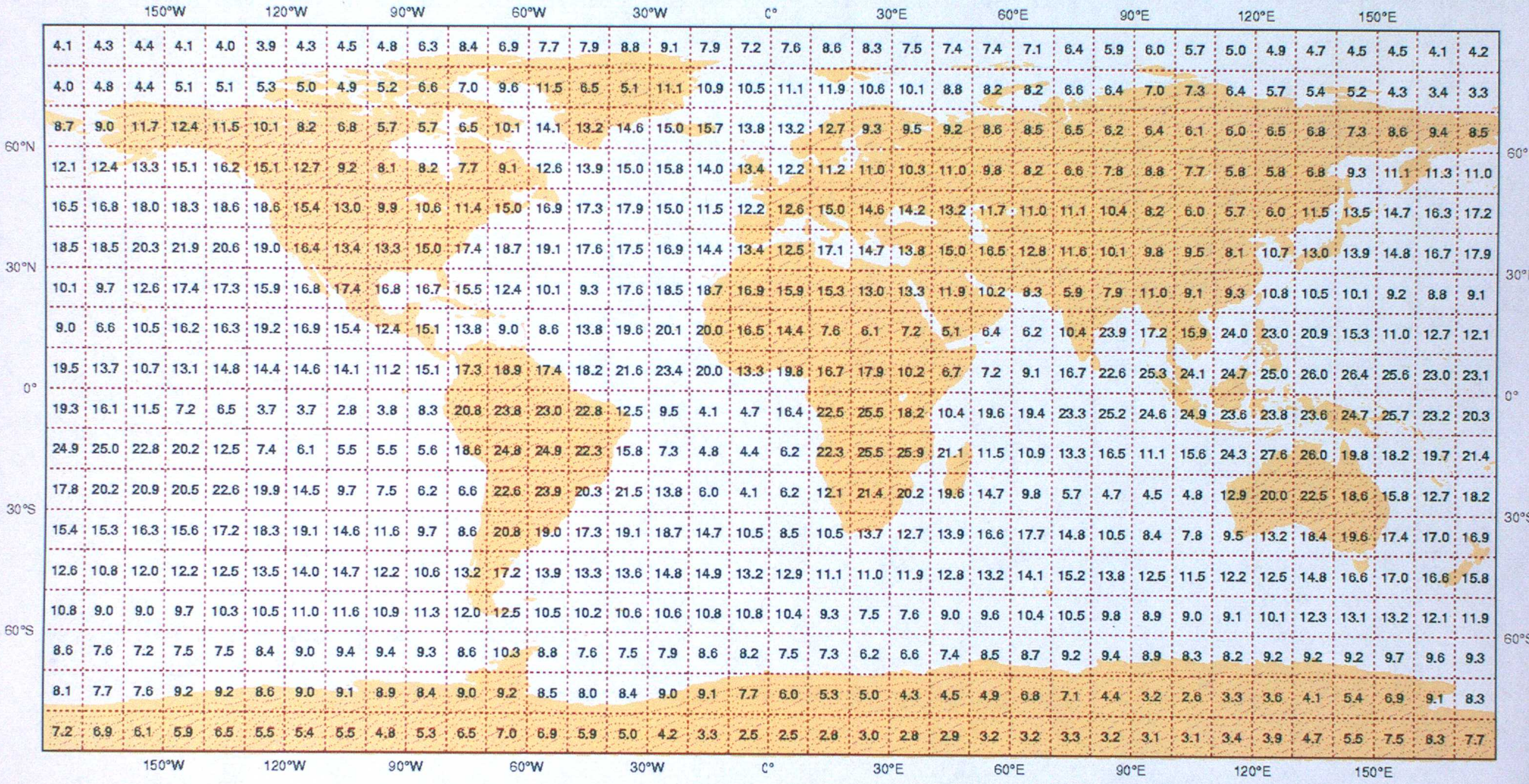
440	440	457	469	471	463	461	462	413	342	297	362	374	346	347	353	397	427	415	416	413	409	406	400	397	399	401	393	401	409	411	420	422	424	432	430
1176	1261	1302	1327	1322	1258	1119	1150	946	681	989	1129	1149	840	869	1167	1280	1273	1210	1152	1110	1109	1101	1083	1127	1159	1179	1142	1099	1166	1136	1144	1135	1135	1159	1197
950	1052	1062	1060	1081	1093	1075	1044	966	1039	979	986	1110	949	1030	1137	1138	1094	1015	913	843	933	1021	1078	1110	1153	1175	1048	1113	1119	1011	827	864	815	710	729
797	948	1071	1121	1143	1120	1132	1121	1107	1081	1039	1063	1075	1083	1077	1067	1041	981	885	801	829	976	1097	1117	1091	1065	1062	1053	1057	1044	1050	1019	989	889	809	760
792	911	1038	1108	1116	1108	1095	1093	1060	1052	1040	1047	1064	1069	1058	1044	1003	928	811	738	865	1060	1122	1129	1102	1014	1008	939	990	1053	1061	1073	1021	856	769	768
1022	1054	1055	1105	1092	1078	1083	1045	1030	1029	992	1046	1063	1035	1044	1007	967	911	750	725	921	1096	1113	1096	1083	979	993	1054	1044	1077	1066	1065	1075	867	714	882
1004	1064	1064	1131	1099	1071	1102	1062	1047	1033	991	1068	1039	1018	1065	1019	942	865	682	778	968	1077	1034	1059	1096	966	982	1053	1039	1080	1073	1063	1089	902	682	826
963	1076	1066	1118	1089	1074	1123	1050	1028	1011	978	1046	1043	1014	1047	996	911	812	628	832	1012	1091	1066	1070	1109	1003	987	1044	1053	1085	1071	1066	1073	906	635	757
951	1077	1097	1128	1116	1100	1095	1001	1022	1035	997	1079	1078	1035	1050	1005	920	758	625	898	1060	1099	1106	1096	1100	1017	964	1017	1070	1063	1065	1074	1048	958	665	717
900	1043	1110	1094	1089	1086	1058	1035	1025	1022	1038	1066	1083	1066	1057	1002	928	708	652	922	1090	1090	1109	1118	1062	1039	998	1007	1093	1061	1058	1086	1041	1007	726	654
859	1036	1113	1073	1102	1112	1050	1038	1000	1000	1067	1066	1074	1060	1042	1011	898	643	705	973	1119	1089	1104	1116	1048	1052	989	994	1102	1065	1065	1091	1024	1026	774	617
790	1020	1124	1083	1108	1126	1032	1013	991	994	1052	1057	1075	1090	1030	1026	843	624	775	1002	1128	1098	1104	1125	1069	1094	1032	995	1083	1064	1055	1070	1035	1053	863	627
744	981	1120	1106	1115	1116	1047	1043	1022	1019	1083	1079	1084	1098	1058	1023	801	653	853	1035	1112	1094	1123	1122	1086	1101	1039	1015	1068	1069	1085	1082	1033	1030	922	679
724	919	1081	1112	1116	1111	1073	1056	1028	1034	1079	1085	1083	1093	1067	973	774	732	907	1070	1129	1138	1138	1127	1099	1070	1047	1044	1054	1082	1092	1083	1060	1043	975	775
807	877	1024	1123	1145	1127	1093	1067	1058	1073	1102	1119	1119	1103	1030	897	803	866	1010	1108	1146	1163	1164	1145	1130	1136	1118	1099	1097	1106	1109	1102	1095	1091	1026	888
994	966	1021	1087	1132	1143	1153	1160	1175	1181	1190	1172	1160	1110	1040	973	976	1038	1136	1195	1222	1231	1233	1232	1227	1226	1217	1202	1183	1166	1158	1160	1144	1157	1141	1072
1213	1174	1149	1140	1145	1168	1194	1213	1224	1218	1210	1202	1197	1200	1185	1207	1234	1259	1301	1333	1347	1347	1345	1334	1348	1350	1344	1297	1293	1259	1253	1266	1274	1271	1262	1238
433	432	427	419	419	423	418	415	421	425	425	423	433	432	445	451	457	461	462	470	480	481	485	483	484	487	482	477	479	478	469	471	472	459	447	446

Figure 56. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS8 (Surface)
NOAA18, using all observations



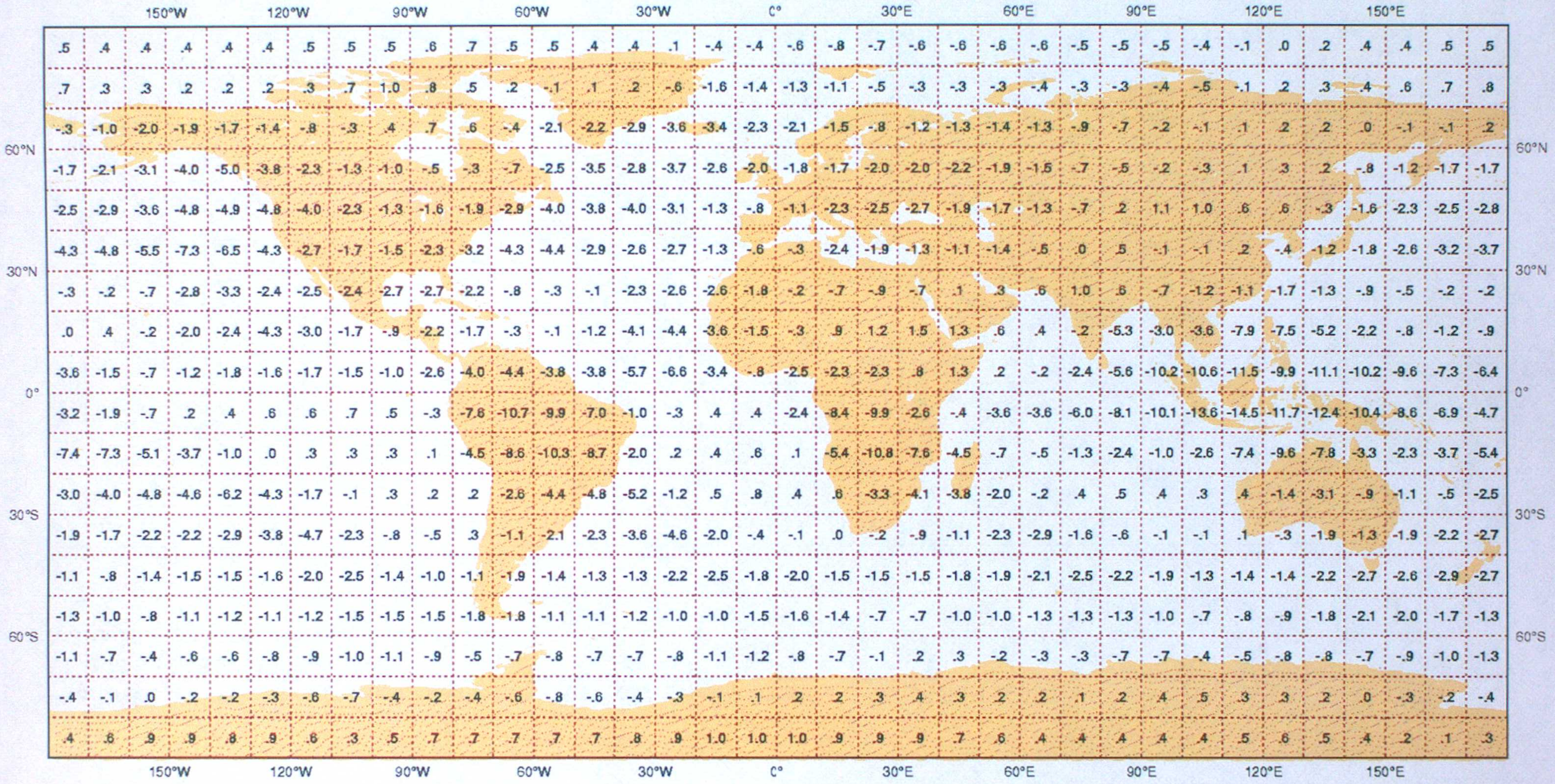
-9.5	-10.2	-10.5	-10.8	-10.8	-10.7	-10.3	-9.8	-9.6	-8.2	-5.7	-7.0	-6.2	-6.1	-5.0	-6.9	-10.5	-10.7	-11.9	-12.9	-13.1	-13.0	-13.0	-13.4	-13.3	-12.8	-12.8	-12.6	-12.1	-11.4	-11.6	-11.0	-10.0	-9.9	-9.4	-9.2
-6.4	-7.2	-7.4	-8.1	-9.0	-8.8	-8.5	-8.8	-7.6	-7.4	-7.5	-7.8	-7.4	-6.1	-5.9	-7.1	-15.0	-14.8	-15.8	-14.8	-12.5	-12.5	-12.8	-11.6	-11.0	-10.3	-10.3	-11.2	-11.4	-10.8	-10.1	-9.9	-9.7	-7.8	-7.2	-6.9
-9.6	-10.4	-10.4	-8.4	-6.9	-7.4	-7.4	-6.6	-7.4	-7.4	-9.8	-13.0	-19.2	-11.8	-17.1	-19.6	-18.5	-17.0	-16.7	-12.3	-10.7	-12.6	-12.7	-12.2	-12.0	-11.3	-11.0	-8.2	-10.4	-9.4	-8.1	-5.9	-6.7	-10.0	-7.8	-8.0
-17.3	-15.8	-17.9	-20.5	-21.9	-14.2	-11.0	-8.9	-9.1	-10.4	-10.3	-10.5	-19.3	-21.2	-17.4	-19.4	-16.1	-13.4	-13.4	-13.1	-13.1	-12.8	-13.6	-12.1	-11.2	-10.6	-9.8	-5.8	-6.9	-4.5	-5.5	-5.5	-14.7	-15.2	-17.5	-18.5
-17.6	-17.9	-18.7	-21.2	-21.1	-19.0	-13.8	-10.7	-9.9	-12.1	-11.6	-17.3	-20.3	-20.4	-20.0	-17.2	-12.3	-9.6	-9.8	-15.2	-14.5	-15.3	-11.9	-12.3	-10.4	-7.1	-2.0	3.3	.4	-3.0	-4.4	-11.0	-17.6	-20.4	-19.8	-19.5
-19.5	-20.9	-22.6	-26.8	-24.2	-17.5	-10.0	-6.8	-8.4	-10.9	-16.6	-21.2	-20.3	-15.5	-13.8	-14.8	-11.2	-6.7	-7.8	-15.8	-12.9	-8.9	-6.6	-6.7	-4.2	-2.7	-1.6	-2.0	-3.5	-4.5	-11.6	-16.4	-17.8	-19.4	-20.0	-19.2
-4.8	-4.6	-6.3	-12.6	-14.5	-12.0	-11.1	-8.7	-12.5	-12.1	-11.1	-7.3	-6.4	-5.8	-11.9	-13.5	-12.0	-7.9	-4.3	-5.7	-5.9	-4.8	-1.8	-2.2	-1.0	.2	-.3	-5.1	-7.2	-7.7	-14.6	-12.2	-9.8	-7.4	-5.4	-4.8
-3.7	-2.5	-4.4	-10.1	-10.9	-16.1	-11.9	-8.0	-6.3	-10.4	-8.7	-5.2	-5.1	-8.1	-15.8	-16.8	-14.7	-7.3	-4.3	-.7	1.3	3.1	2.4	-1.8	-2.3	-3.2	-16.3	-11.8	-14.0	-24.2	-24.0	-18.0	-10.0	-5.9	-7.0	-6.0
-12.9	-7.7	-5.5	-7.1	-8.8	-8.5	-8.8	-8.5	-7.2	-11.6	-14.8	-15.6	-14.6	-14.6	-19.0	-20.6	-12.9	-6.1	-10.7	-9.6	-8.8	1.0	2.4	-2.8	-4.0	-9.8	-17.6	-29.2	-30.5	-32.8	-29.1	-31.8	-29.5	-27.6	-22.2	-19.6
-11.5	-8.4	-5.1	-2.9	-2.7	-2.0	-2.1	-1.6	-2.5	-5.0	-23.8	-31.7	-30.2	-23.5	-7.0	-4.9	-3.5	-3.7	-11.5	-26.0	-29.2	-9.8	-4.3	-13.0	-13.1	-19.1	-23.9	-29.7	-37.9	-40.9	-34.6	-36.0	-31.0	-25.7	-21.0	-15.9
-22.0	-21.9	-16.5	-13.4	-7.4	-4.9	-4.5	-4.2	-4.8	-6.2	-14.5	-25.8	-31.2	-27.5	-10.3	-4.3	-4.0	-4.1	-5.4	-18.0	-32.2	-23.4	-15.2	-5.6	-5.5	-7.7	-10.5	-7.4	-11.3	-23.4	-29.3	-25.1	-13.1	-9.9	-13.0	-17.8
-12.9	-15.2	-17.3	-16.9	-21.2	-16.6	-9.8	-5.3	-4.5	-6.4	-6.3	-9.5	-16.0	-17.9	-19.3	-8.5	-3.6	-3.3	-4.2	-2.2	-13.2	-15.7	-14.4	-10.1	-4.8	-3.1	-3.6	-5.5	-5.6	-1.4	-7.2	-12.0	-5.6	-6.6	-5.6	-11.4
-11.1	-10.8	-12.6	-12.5	-13.6	-16.3	-19.2	-12.9	-8.7	-9.2	-5.0	-6.7	-11.7	-13.2	-16.3	-18.8	-11.3	-6.9	-5.7	-6.0	-7.0	-10.3	-10.2	-12.0	-13.4	-9.7	-6.6	-5.9	-6.6	-5.9	-5.7	-9.0	-7.2	-10.7	-12.1	-13.7
-10.0	-9.7	-12.4	-12.7	-12.3	-12.1	-12.8	-13.6	-10.7	-9.7	-10.0	-13.1	-12.7	-12.5	-11.9	-13.8	-14.2	-11.9	-12.2	-12.8	-14.7	-14.8	-14.6	-14.1	-13.6	-14.2	-13.9	-13.7	-12.8	-13.5	-13.3	-15.1	-15.2	-14.7	-14.9	-14.2
-11.6	-11.9	-12.4	-13.8	-13.9	-13.9	-12.8	-12.9	-12.4	-12.5	-15.2	-15.7	-13.3	-13.0	-13.2	-12.7	-12.7	-13.4	-14.0	-14.0	-13.1	-13.7	-14.1	-13.9	-14.1	-13.4	-13.7	-13.0	-12.2	-12.3	-12.2	-14.5	-14.1	-13.2	-11.6	-10.2
-11.5	-11.2	-10.7	-11.8	-12.1	-13.1	-13.2	-12.9	-13.0	-12.4	-11.2	-11.7	-13.3	-13.0	-13.3	-14.5	-15.2	-15.2	-13.7	-13.4	-11.5	-9.0	-7.5	-9.6	-10.4	-9.9	-10.5	-10.1	-9.1	-9.8	-10.3	-10.0	-9.4	-10.2	-10.3	-11.6
-10.8	-9.6	-8.7	-9.0	-8.4	-8.4	-9.9	-10.4	-8.4	-8.2	-10.2	-10.9	-13.9	-12.6	-11.6	-9.5	-7.0	-5.2	-4.0	-4.1	-3.7	-2.8	-3.5	-3.9	-4.3	-4.3	-3.2	-2.5	-2.0	-2.7	-3.1	-3.2	-4.3	-5.6	-7.8	-9.9
-6.6	-6.1	-5.2	-4.3	-3.1	-2.4	-3.4	-4.2	-3.3	-3.0	-4.2	-4.9	-4.5	-3.6	-2.8	-1.8	-1.0	-.9	-1.0	-1.3	-1.3	-1.3	-1.8	-2.5	-3.0	-2.8	-3.0	-3.1	-2.8	-2.2	-2.2	-2.8	-3.8	-4.9	-7.1	-7.2

Figure 57. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS8 (Surface)
NOAA18, using all observations



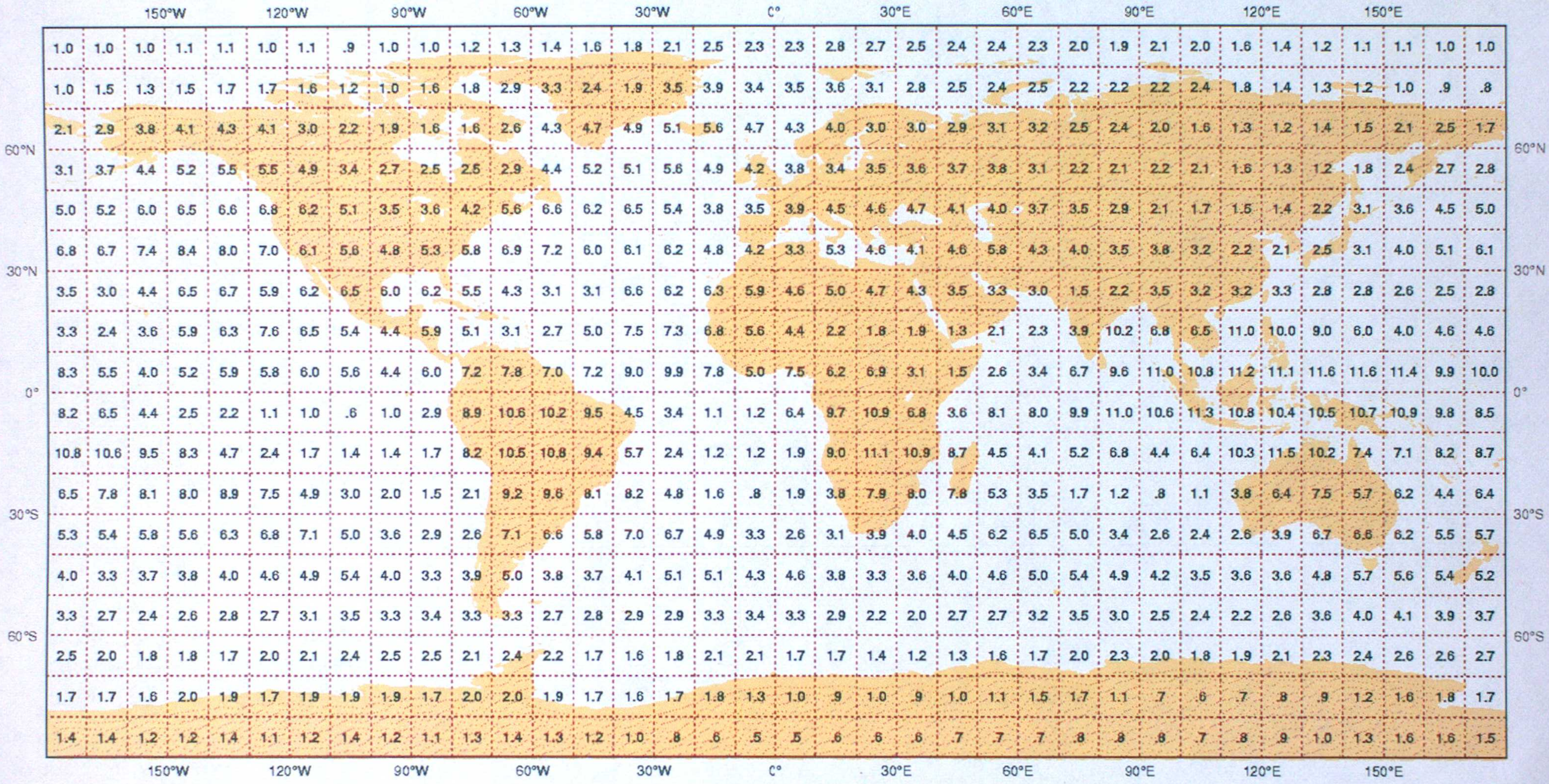
4.1	4.3	4.4	4.1	4.0	3.9	4.3	4.5	4.8	6.3	8.4	6.9	7.7	7.9	8.8	9.1	7.9	7.2	7.6	8.6	8.3	7.5	7.4	7.4	7.1	6.4	5.9	6.0	5.7	5.0	4.9	4.7	4.5	4.5	4.1	4.2
4.0	4.8	4.4	5.1	5.1	5.3	5.0	4.9	5.2	6.6	7.0	9.6	11.5	6.5	5.1	11.1	10.9	10.5	11.1	11.9	10.6	10.1	8.8	8.2	8.2	6.6	6.4	7.0	7.3	6.4	5.7	5.4	5.2	4.3	3.4	3.3
8.7	9.0	11.7	12.4	11.5	10.1	8.2	6.8	5.7	5.7	6.5	10.1	14.1	13.2	14.6	15.0	15.7	13.8	13.2	12.7	9.3	9.5	9.2	8.6	8.5	6.5	6.2	6.4	6.1	6.0	6.5	6.8	7.3	8.6	9.4	8.5
12.1	12.4	13.3	15.1	16.2	15.1	12.7	9.2	8.1	8.2	7.7	9.1	12.6	13.9	15.0	15.8	14.0	13.4	12.2	11.2	11.0	10.3	11.0	9.8	8.2	6.6	7.8	8.8	7.7	5.8	5.8	6.8	9.3	11.1	11.3	11.0
16.5	16.8	18.0	18.3	18.6	18.6	15.4	13.0	9.9	10.6	11.4	15.0	16.9	17.3	17.9	15.0	11.5	12.2	12.6	15.0	14.6	14.2	13.2	11.7	11.0	11.1	10.4	8.2	6.0	5.7	6.0	11.5	13.5	14.7	16.3	17.2
18.5	18.5	20.3	21.9	20.6	19.0	16.4	13.4	13.3	15.0	17.4	18.7	19.1	17.6	17.5	16.9	14.4	13.4	12.5	17.1	14.7	13.8	15.0	16.5	12.8	11.6	10.1	9.8	9.5	8.1	10.7	13.0	13.9	14.8	16.7	17.9
10.1	9.7	12.6	17.4	17.3	15.9	16.8	17.4	16.8	16.7	15.5	12.4	10.1	9.3	17.6	18.5	18.7	16.9	15.9	15.3	13.0	13.3	11.9	10.2	8.3	5.9	7.9	11.0	9.1	9.3	10.8	10.5	10.1	9.2	8.8	9.1
9.0	6.6	10.5	16.2	16.3	19.2	16.9	15.4	12.4	15.1	13.8	9.0	8.6	13.8	19.6	20.1	20.0	16.5	14.4	7.6	6.1	7.2	5.1	6.4	6.2	10.4	23.9	17.2	15.9	24.0	23.0	20.9	15.3	11.0	12.7	12.1
19.5	13.7	10.7	13.1	14.8	14.4	14.6	14.1	11.2	15.1	17.3	18.9	17.4	18.2	21.6	23.4	20.0	13.3	19.8	16.7	17.9	10.2	6.7	7.2	9.1	16.7	22.6	25.3	24.1	24.7	25.0	26.0	26.4	25.6	23.0	23.1
19.3	16.1	11.5	7.2	6.5	3.7	3.7	2.8	3.8	8.3	20.8	23.8	23.0	22.8	12.5	9.5	4.1	4.7	16.4	22.5	25.5	18.2	10.4	19.6	19.4	23.3	25.2	24.6	24.9	23.6	23.8	23.6	24.7	25.7	23.2	20.3
24.9	25.0	22.8	20.2	12.5	7.4	6.1	5.5	5.5	5.6	18.6	24.8	24.9	22.3	15.8	7.3	4.8	4.4	6.2	22.3	25.5	25.9	21.1	11.5	10.9	13.3	16.5	11.1	15.6	24.3	27.6	26.0	19.8	18.2	19.7	21.4
17.8	20.2	20.9	20.5	22.6	19.9	14.5	9.7	7.5	6.2	6.6	22.6	23.9	20.3	21.5	13.8	6.0	4.1	6.2	12.1	21.4	20.2	19.6	14.7	9.8	5.7	4.7	4.5	4.8	12.9	20.0	22.5	18.6	15.8	12.7	18.2
15.4	15.3	16.3	15.6	17.2	18.3	19.1	14.6	11.6	9.7	8.6	20.8	19.0	17.3	19.1	18.7	14.7	10.5	8.5	10.5	13.7	12.7	13.9	16.6	17.7	14.8	10.5	8.4	7.8	9.5	13.2	18.4	19.6	17.4	17.0	16.9
12.6	10.8	12.0	12.2	12.5	13.5	14.0	14.7	12.2	10.6	13.2	17.2	13.9	13.3	13.6	14.8	14.9	13.2	12.9	11.1	11.0	11.9	12.8	13.2	14.1	15.2	13.8	12.5	11.5	12.2	12.5	14.8	16.6	17.0	16.6	15.8
10.8	9.0	9.0	9.7	10.3	10.5	11.0	11.6	10.9	11.3	12.0	12.5	10.5	10.2	10.6	10.6	10.8	10.8	10.4	9.3	7.5	7.6	9.0	9.6	10.4	10.5	9.8	8.9	9.0	9.1	10.1	12.3	13.1	13.2	12.1	11.9
8.6	7.6	7.2	7.5	7.5	8.4	9.0	9.4	9.4	9.3	8.6	10.3	8.8	7.6	7.5	7.9	8.6	8.2	7.5	7.3	6.2	6.6	7.4	8.5	8.7	9.2	9.4	8.9	8.3	8.2	9.2	9.2	9.2	9.7	9.6	9.3
8.1	7.7	7.6	9.2	9.2	8.6	9.0	9.1	8.9	8.4	9.0	9.2	8.5	8.0	8.4	9.0	9.1	7.7	6.0	5.3	5.0	4.3	4.5	4.9	6.8	7.1	4.4	3.2	2.6	3.3	3.6	4.1	5.4	6.9	9.1	8.3
7.2	6.9	6.1	5.9	6.5	5.5	5.4	5.5	4.8	5.3	6.5	7.0	6.9	5.9	5.0	4.2	3.3	2.5	2.5	2.8	3.0	2.8	2.9	3.2	3.2	3.3	3.2	3.1	3.1	3.4	3.9	4.7	5.5	7.5	8.3	7.7

Figure 58. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS15 (700 hPa)
NOAA18, using all observations



.5	.4	.4	.4	.4	.4	.5	.5	.5	.6	.7	.5	.5	.4	.4	.1	-.4	-.4	-.6	-.8	-.7	-.6	-.6	-.6	-.6	-.5	-.5	-.5	-.4	-.1	.0	.2	.4	.4	.5	.5
.7	.3	.3	.2	.2	.2	.3	.7	1.0	.8	.5	.2	-.1	.1	.2	-.6	-1.6	-1.4	-1.3	-1.1	-.5	-.3	-.3	-.3	-.4	-.3	-.3	-.4	-.5	-.1	.2	.3	.4	.6	.7	.8
-.3	-1.0	-2.0	-1.9	-1.7	-1.4	-.8	-.3	.4	.7	.6	-.4	-2.1	-2.2	-2.9	-3.6	-3.4	-2.3	-2.1	-1.5	-.8	-1.2	-1.3	-1.4	-1.3	-.9	-.7	-.2	-.1	.1	.2	.2	.0	-.1	-.1	.2
-1.7	-2.1	-3.1	-4.0	-5.0	-3.8	-2.3	-1.3	-1.0	-.5	-.3	-.7	-2.5	-3.5	-2.8	-3.7	-2.6	-2.0	-1.8	-1.7	-2.0	-2.0	-2.2	-1.9	-1.5	-.7	-.5	-.2	-.3	.1	.3	.2	-.8	-1.2	-1.7	-1.7
-2.5	-2.9	-3.6	-4.8	-4.9	-4.8	-4.0	-2.3	-1.3	-1.6	-1.9	-2.9	-4.0	-3.8	-4.0	-3.1	-1.3	-.8	-1.1	-2.3	-2.5	-2.7	-1.9	-1.7	-1.3	-.7	.2	1.1	1.0	.6	.6	-.3	-1.6	-2.3	-2.5	-2.8
-4.3	-4.8	-5.5	-7.3	-6.5	-4.3	-2.7	-1.7	-1.5	-2.3	-3.2	-4.3	-4.4	-2.9	-2.6	-2.7	-1.3	-.6	-.3	-2.4	-1.9	-1.3	-1.1	-1.4	-.5	.0	.5	-.1	-.1	.2	-.4	-1.2	-1.8	-2.6	-3.2	-3.7
-.3	-.2	-.7	-2.8	-3.3	-2.4	-2.5	-2.4	-2.7	-2.7	-2.2	-.8	-.3	-.1	-2.3	-2.6	-2.6	-1.8	-.2	-.7	-.9	-.7	.1	.3	.6	1.0	.6	-.7	-1.2	-1.1	-1.7	-1.3	-.9	-.5	-.2	-.2
.0	.4	-.2	-2.0	-2.4	-4.3	-3.0	-1.7	-.9	-2.2	-1.7	-.3	-.1	-1.2	-4.1	-4.4	-3.6	-1.5	-.3	.9	1.2	1.5	1.3	.6	.4	-.2	-5.3	-3.0	-3.6	-7.9	-7.5	-5.2	-2.2	-.8	-1.2	-.9
-3.6	-1.5	-.7	-1.2	-1.8	-1.6	-1.7	-1.5	-1.0	-2.6	-4.0	-4.4	-3.8	-3.8	-5.7	-6.6	-3.4	-.8	-2.5	-2.3	-2.3	.8	1.3	.2	-.2	-2.4	-5.6	-10.2	-10.6	-11.5	-9.9	-11.1	-10.2	-9.6	-7.3	-6.4
-3.2	-1.9	-.7	.2	.4	.6	.6	.7	.5	-.3	-7.6	-10.7	-9.9	-7.0	-1.0	-.3	.4	.4	-2.4	-8.4	-9.9	-2.6	-.4	-3.6	-3.6	-6.0	-8.1	-10.1	-13.6	-14.5	-11.7	-12.4	-10.4	-8.6	-6.9	-4.7
-7.4	-7.3	-5.1	-3.7	-1.0	.0	.3	.3	.3	.1	-4.5	-8.6	-10.3	-8.7	-2.0	.2	.4	.6	.1	-5.4	-10.8	-7.6	-4.5	-.7	-.5	-1.3	-2.4	-1.0	-2.6	-7.4	-9.6	-7.8	-3.3	-2.3	-3.7	-5.4
-3.0	-4.0	-4.8	-4.6	-6.2	-4.3	-1.7	-.1	.3	.2	.2	-2.6	-4.4	-4.8	-5.2	-1.2	.5	.8	.4	.6	-3.3	-4.1	-3.8	-2.0	-.2	.4	.5	.4	.3	.4	-1.4	-3.1	-.9	-1.1	-.5	-2.5
-1.9	-1.7	-2.2	-2.2	-2.9	-3.8	-4.7	-2.3	-.8	-.5	.3	-1.1	-2.1	-2.3	-3.6	-4.6	-2.0	-.4	-.1	.0	-.2	-.9	-1.1	-2.3	-2.9	-1.6	-.6	-.1	-.1	.1	-.3	-1.9	-1.3	-1.9	-2.2	-2.7
-1.1	-.8	-1.4	-1.5	-1.5	-1.6	-2.0	-2.5	-1.4	-1.0	-1.1	-1.9	-1.4	-1.3	-1.3	-2.2	-2.5	-1.8	-2.0	-1.5	-1.5	-1.5	-1.8	-1.9	-2.1	-2.5	-2.2	-1.9	-1.3	-1.4	-1.4	-2.2	-2.7	-2.6	-2.9	-2.7
-1.3	-1.0	-.8	-1.1	-1.2	-1.1	-1.2	-1.5	-1.5	-1.5	-1.8	-1.8	-1.1	-1.1	-1.2	-1.0	-1.0	-1.5	-1.6	-1.4	-.7	-.7	-1.0	-1.0	-1.3	-1.3	-1.3	-1.0	-.7	-.8	-.9	-1.8	-2.1	-2.0	-1.7	-1.3
-1.1	-.7	-.4	-.6	-.6	-.8	-.9	-1.0	-1.1	-.9	-.5	-.7	-.8	-.7	-.7	-.8	-1.1	-1.2	-.8	-.7	-.1	.2	.3	-.2	-.3	-.3	-.7	-.7	-.4	-.5	-.8	-.8	-.7	-.9	-1.0	-1.3
-.4	-.1	.0	-.2	-.2	-.3	-.6	-.7	-.4	-.2	-.4	-.6	-.8	-.6	-.4	-.3	-.1	.1	.2	.2	.3	.4	.3	.2	.2	.1	.2	.4	.5	.3	.3	.2	.0	-.3	-.2	-.4
.4	.6	.9	.9	.8	.9	.6	.3	.5	.7	.7	.7	.7	.7	.8	.9	1.0	1.0	1.0	.9	.9	.9	.7	.6	.4	.4	.4	.4	.4	.5	.6	.5	.4	.2	.1	.3

Figure 59. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS15 (700 hPa)
NOAA18, using all observations



1.0	1.0	1.0	1.1	1.1	1.0	1.1	.9	1.0	1.0	1.2	1.3	1.4	1.6	1.8	2.1	2.5	2.3	2.3	2.8	2.7	2.5	2.4	2.4	2.3	2.0	1.9	2.1	2.0	1.6	1.4	1.2	1.1	1.1	1.0	1.0
1.0	1.5	1.3	1.5	1.7	1.7	1.6	1.2	1.0	1.6	1.8	2.9	3.3	2.4	1.9	3.5	3.9	3.4	3.5	3.6	3.1	2.8	2.5	2.4	2.5	2.2	2.2	2.2	2.4	1.8	1.4	1.3	1.2	1.0	.9	.8
2.1	2.9	3.8	4.1	4.3	4.1	3.0	2.2	1.9	1.6	1.6	2.6	4.3	4.7	4.9	5.1	5.6	4.7	4.3	4.0	3.0	3.0	2.9	3.1	3.2	2.5	2.4	2.0	1.6	1.3	1.2	1.4	1.5	2.1	2.5	1.7
3.1	3.7	4.4	5.2	5.5	5.5	4.9	3.4	2.7	2.5	2.5	2.9	4.4	5.2	5.1	5.6	4.9	4.2	3.8	3.4	3.5	3.6	3.7	3.8	3.1	2.2	2.1	2.2	2.1	1.6	1.3	1.2	1.8	2.4	2.7	2.8
5.0	5.2	6.0	6.5	6.6	6.8	6.2	5.1	3.5	3.6	4.2	5.6	6.6	6.2	6.5	5.4	3.8	3.5	3.9	4.5	4.6	4.7	4.1	4.0	3.7	3.5	2.9	2.1	1.7	1.5	1.4	2.2	3.1	3.6	4.5	5.0
6.8	6.7	7.4	8.4	8.0	7.0	6.1	5.6	4.8	5.3	5.8	6.9	7.2	6.0	6.1	6.2	4.8	4.2	3.3	5.3	4.6	4.1	4.6	5.8	4.3	4.0	3.5	3.8	3.2	2.2	2.1	2.5	3.1	4.0	5.1	6.1
3.5	3.0	4.4	6.5	6.7	5.9	6.2	6.5	6.0	6.2	5.5	4.3	3.1	3.1	6.6	6.2	6.3	5.9	4.6	5.0	4.7	4.3	3.5	3.3	3.0	1.5	2.2	3.5	3.2	3.2	3.3	2.8	2.8	2.6	2.5	2.8
3.3	2.4	3.6	5.9	6.3	7.6	6.5	5.4	4.4	5.9	5.1	3.1	2.7	5.0	7.5	7.3	6.8	5.6	4.4	2.2	1.8	1.9	1.3	2.1	2.3	3.9	10.2	6.8	6.5	11.0	10.0	9.0	6.0	4.0	4.6	4.6
8.3	5.5	4.0	5.2	5.9	5.8	6.0	5.6	4.4	6.0	7.2	7.8	7.0	7.2	9.0	9.9	7.8	5.0	7.5	6.2	6.9	3.1	1.5	2.6	3.4	6.7	9.6	11.0	10.8	11.2	11.1	11.6	11.6	11.4	9.9	10.0
8.2	6.5	4.4	2.5	2.2	1.1	1.0	.6	1.0	2.9	8.9	10.6	10.2	9.5	4.5	3.4	1.1	1.2	6.4	9.7	10.9	6.8	3.6	8.1	8.0	9.9	11.0	10.6	11.3	10.8	10.4	10.5	10.7	10.9	9.8	8.5
10.8	10.6	9.5	8.3	4.7	2.4	1.7	1.4	1.4	1.7	8.2	10.5	10.8	9.4	5.7	2.4	1.2	1.2	1.9	9.0	11.1	10.9	8.7	4.5	4.1	5.2	6.8	4.4	6.4	10.3	11.5	10.2	7.4	7.1	8.2	8.7
6.5	7.8	8.1	8.0	8.9	7.5	4.9	3.0	2.0	1.5	2.1	9.2	9.6	8.1	8.2	4.8	1.6	.8	1.9	3.8	7.9	8.0	7.8	5.3	3.5	1.7	1.2	.8	1.1	3.8	6.4	7.5	5.7	6.2	4.4	6.4
5.3	5.4	5.8	5.6	6.3	6.8	7.1	5.0	3.6	2.9	2.6	7.1	6.6	5.8	7.0	6.7	4.9	3.3	2.6	3.1	3.9	4.0	4.5	6.2	6.5	5.0	3.4	2.6	2.4	2.6	3.9	6.7	6.6	6.2	5.5	5.7
4.0	3.3	3.7	3.8	4.0	4.6	4.9	5.4	4.0	3.3	3.9	5.0	3.8	3.7	4.1	5.1	5.1	4.3	4.6	3.8	3.3	3.6	4.0	4.6	5.0	5.4	4.9	4.2	3.5	3.6	3.6	4.8	5.7	5.6	5.4	5.2
3.3	2.7	2.4	2.6	2.8	2.7	3.1	3.5	3.3	3.4	3.3	3.3	2.7	2.8	2.9	2.9	3.3	3.4	3.3	2.9	2.2	2.0	2.7	2.7	3.2	3.5	3.0	2.5	2.4	2.2	2.6	3.6	4.0	4.1	3.9	3.7
2.5	2.0	1.8	1.8	1.7	2.0	2.1	2.4	2.5	2.5	2.1	2.4	2.2	1.7	1.6	1.8	2.1	2.1	1.7	1.7	1.4	1.2	1.3	1.6	1.7	2.0	2.3	2.0	1.8	1.9	2.1	2.3	2.4	2.6	2.6	2.7
1.7	1.7	1.6	2.0	1.9	1.7	1.9	1.9	1.9	1.7	2.0	2.0	1.9	1.7	1.6	1.7	1.8	1.3	1.0	.9	1.0	.9	1.0	1.1	1.5	1.7	1.1	.7	.6	.7	.8	.9	1.2	1.6	1.8	1.7
1.4	1.4	1.2	1.2	1.4	1.1	1.2	1.4	1.2	1.1	1.3	1.4	1.3	1.2	1.0	.8	.6	.5	.5	.6	.6	.6	.7	.7	.7	.8	.8	.8	.7	.8	.9	1.0	1.3	1.6	1.6	1.5

Figure 60. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS11 (500 - 700 hPa)
NOAA18, using all observations

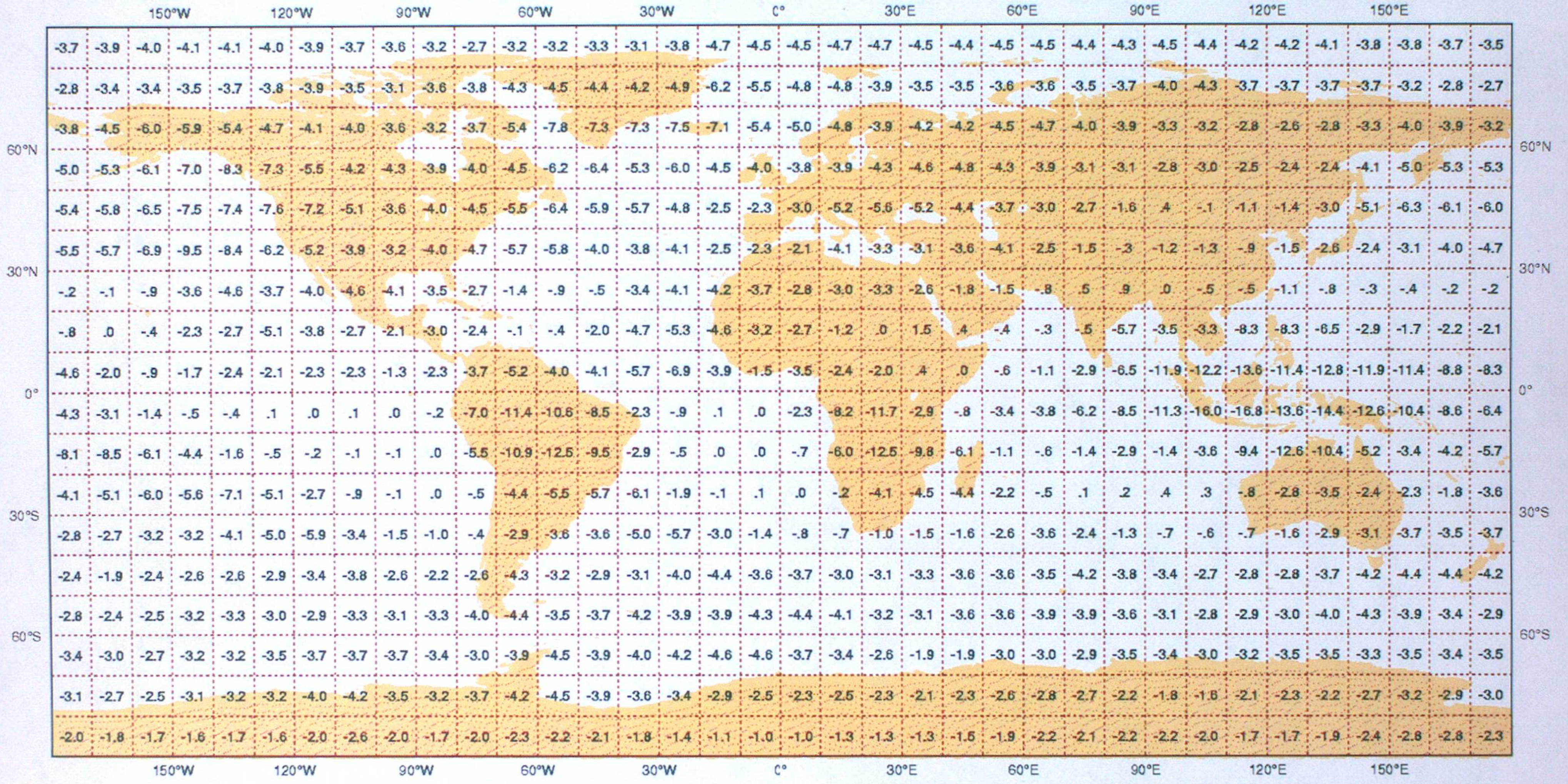
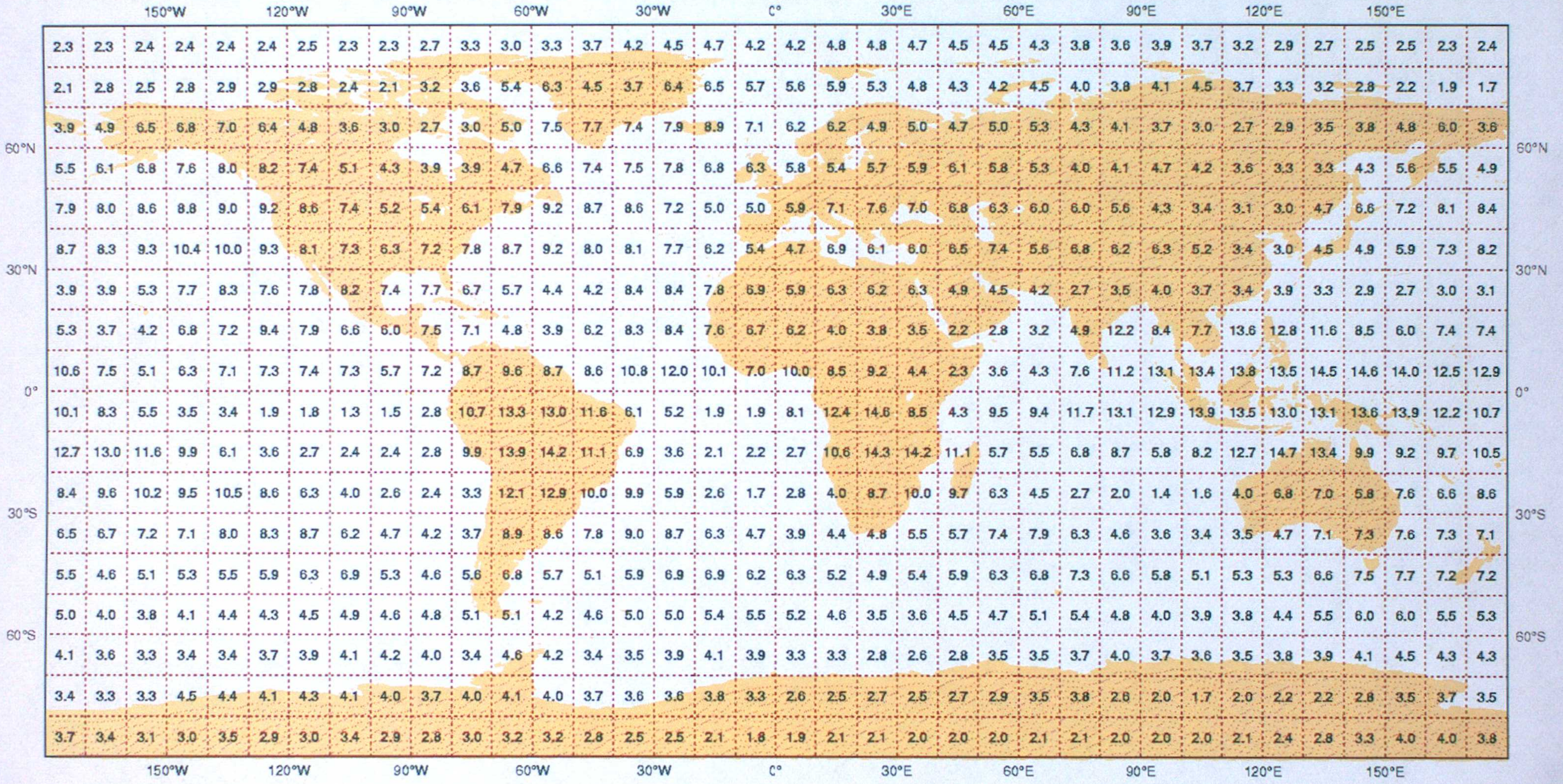
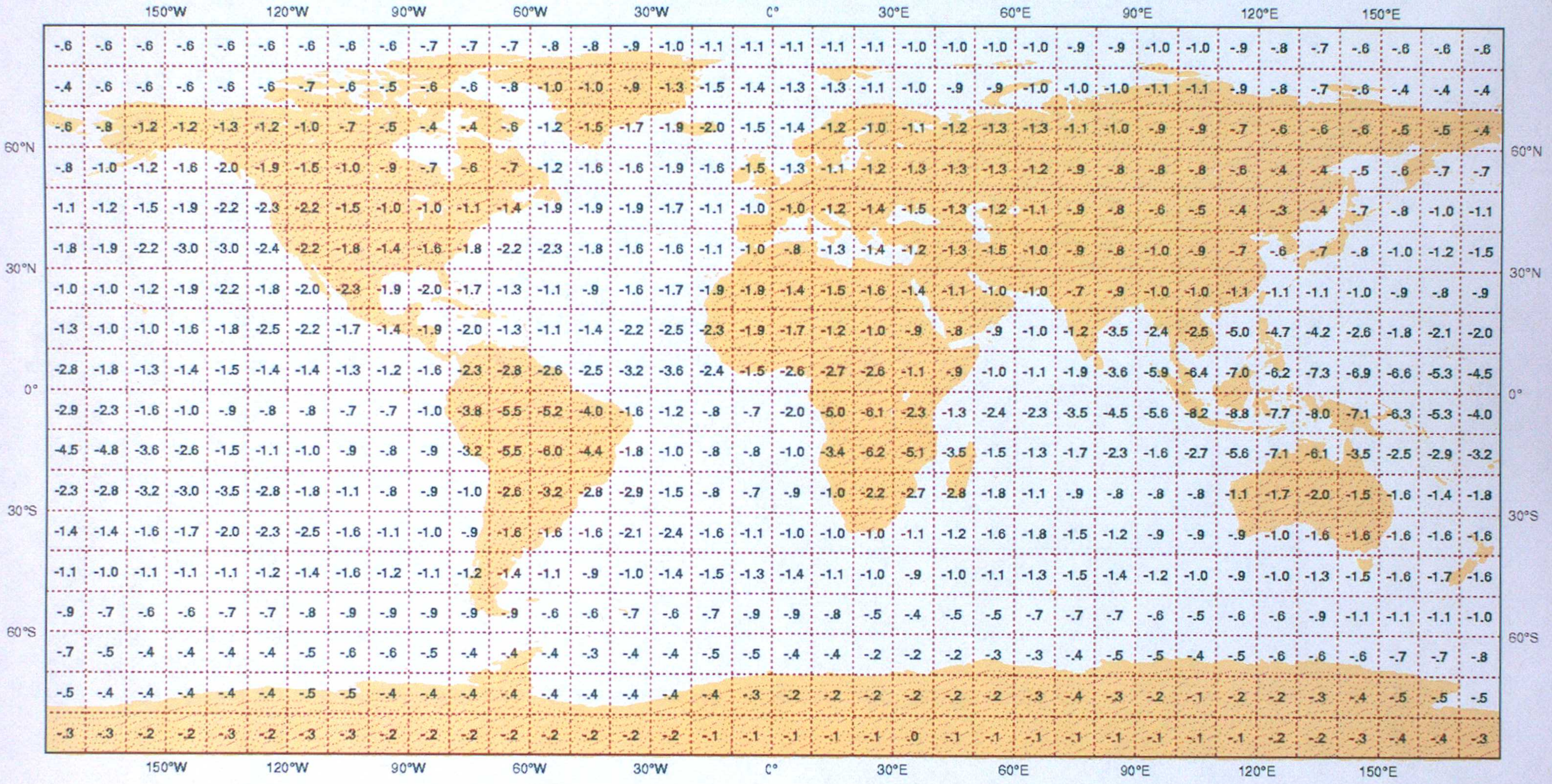

150°W 120°W 90°W 60°W 30°W 0° 30°E 60°E 90°E 120°E 150°E
60°N
30°N
0°
30°S
60°S
-3.7 -3.9 -4.0 -4.1 -4.1 -4.0 -3.9 -3.7 -3.6 -3.2 -2.7 -3.2 -3.2 -3.3 -3.1 -3.8 -4.7 -4.5 -4.5 -4.7 -4.7 -4.5 -4.4 -4.5 -4.5 -4.4 -4.3 -4.5 -4.4 -4.2 -4.2 -4.1 -3.8 -3.8 -3.7 -3.5
-2.8 -3.4 -3.4 -3.5 -3.7 -3.8 -3.9 -3.5 -3.1 -3.6 -3.8 -4.3 -4.5 -4.4 -4.2 -4.9 -6.2 -5.5 -4.8 -4.8 -3.9 -3.5 -3.5 -3.6 -3.6 -3.5 -3.7 -4.0 -4.3 -3.7 -3.7 -3.7 -3.7 -3.2 -2.8 -2.7
-3.8 -4.5 -6.0 -5.9 -5.4 -4.7 -4.1 -4.0 -3.6 -3.2 -3.7 -5.4 -7.8 -7.3 -7.3 -7.5 -7.1 -5.4 -5.0 -4.8 -3.9 -4.2 -4.2 -4.5 -4.7 -4.0 -3.9 -3.3 -3.2 -2.8 -2.6 -2.8 -3.3 -4.0 -3.9 -3.2
-5.0 -5.3 -6.1 -7.0 -8.3 -7.3 -5.5 -4.2 -4.3 -3.9 -4.0 -4.5 -6.2 -6.4 -5.3 -6.0 -4.5 -4.0 -3.8 -3.9 -4.3 -4.6 -4.8 -4.3 -3.9 -3.1 -3.1 -2.8 -3.0 -2.5 -2.4 -2.4 -4.1 -5.0 -5.3 -5.3
-5.4 -5.8 -6.5 -7.5 -7.4 -7.6 -7.2 -5.1 -3.6 -4.0 -4.5 -5.5 -6.4 -5.9 -5.7 -4.8 -2.5 -2.3 -3.0 -5.2 -5.6 -5.2 -4.4 -3.7 -3.0 -2.7 -1.6 .4 -.1 -1.1 -1.4 -3.0 -5.1 -6.3 -6.1 -6.0
-5.5 -5.7 -6.9 -9.5 -8.4 -6.2 -5.2 -3.9 -3.2 -4.0 -4.7 -5.7 -5.8 -4.0 -3.8 -4.1 -2.5 -2.3 -2.1 -4.1 -3.3 -3.1 -3.6 -4.1 -2.5 -1.5 -.3 -1.2 -1.3 -.9 -1.5 -2.6 -2.4 -3.1 -4.0 -4.7
-.2 -.1 -.9 -3.6 -4.6 -3.7 -4.0 -4.6 -4.1 -3.5 -2.7 -1.4 -.9 -.5 -3.4 -4.1 -4.2 -3.7 -2.8 -3.0 -3.3 -2.6 -1.8 -1.5 -.8 .5 .9 .0 -.5 -.5 -1.1 -.8 -.3 -.4 -.2 -.2
-.8 .0 -.4 -2.3 -2.7 -5.1 -3.8 -2.7 -2.1 -3.0 -2.4 -.1 -.4 -2.0 -4.7 -5.3 -4.6 -3.2 -2.7 -1.2 .0 1.5 .4 -.4 -.3 -.5 -5.7 -3.5 -3.3 -8.3 -8.3 -6.5 -2.9 -1.7 -2.2 -2.1
-4.6 -2.0 -.9 -1.7 -2.4 -2.1 -2.3 -2.3 -1.3 -2.3 -3.7 -5.2 -4.0 -4.1 -5.7 -6.9 -3.9 -1.5 -3.5 -2.4 -2.0 .4 .0 -.6 -1.1 -2.9 -6.5 -11.9 -12.2 -13.6 -11.4 -12.8 -11.9 -11.4 -8.8 -8.3
-4.3 -3.1 -1.4 -.5 -.4 .1 .0 .1 .0 -.2 -7.0 -11.4 -10.6 -8.5 -2.3 -.9 .1 .0 -2.3 -8.2 -11.7 -2.9 -.8 -3.4 -3.8 -6.2 -8.5 -11.3 -16.0 -16.8 -13.6 -14.4 -12.6 -10.4 -8.6 -6.4
-8.1 -8.5 -6.1 -4.4 -1.6 -.5 -.2 -.1 -.1 .0 -5.5 -10.9 -12.5 -9.5 -2.9 -.5 .0 .0 -.7 -6.0 -12.5 -9.8 -6.1 -1.1 -.6 -1.4 -2.9 -1.4 -3.6 -9.4 -12.6 -10.4 -5.2 -3.4 -4.2 -5.7
-4.1 -5.1 -6.0 -5.6 -7.1 -5.1 -2.7 -.9 -.1 .0 -.5 -4.4 -5.5 -5.7 -6.1 -1.9 -.1 .1 .0 -.2 -4.1 -4.5 -4.4 -2.2 -.5 .1 .2 .4 .3 -.8 -2.8 -3.5 -2.4 -2.3 -1.8 -3.6
-2.8 -2.7 -3.2 -3.2 -4.1 -5.0 -5.9 -3.4 -1.5 -1.0 -.4 -2.9 -3.6 -3.6 -5.0 -5.7 -3.0 -1.4 -.8 -.7 -1.0 -1.5 -1.6 -2.6 -3.6 -2.4 -1.3 -.7 -.6 -.7 -1.6 -2.9 -3.1 -3.7 -3.5 -3.7
-2.4 -1.9 -2.4 -2.6 -2.6 -2.9 -3.4 -3.8 -2.6 -2.2 -2.6 -4.3 -3.2 -2.9 -3.1 -4.0 -4.4 -3.6 -3.7 -3.0 -3.1 -3.3 -3.6 -3.6 -3.5 -4.2 -3.8 -3.4 -2.7 -2.8 -2.8 -3.7 -4.2 -4.4 -4.4 -4.2
-2.8 -2.4 -2.5 -3.2 -3.3 -3.0 -2.9 -3.3 -3.1 -3.3 -4.0 -4.4 -3.5 -3.7 -4.2 -3.9 -3.9 -4.3 -4.4 -4.1 -3.2 -3.1 -3.6 -3.6 -3.9 -3.9 -3.6 -3.1 -2.8 -2.9 -3.0 -4.0 -4.3 -3.9 -3.4 -2.9
-3.4 -3.0 -2.7 -3.2 -3.2 -3.5 -3.7 -3.7 -3.7 -3.4 -3.0 -3.9 -4.5 -3.9 -4.0 -4.2 -4.6 -4.6 -3.7 -3.4 -2.6 -1.9 -1.9 -3.0 -3.0 -2.9 -3.5 -3.4 -3.0 -3.2 -3.5 -3.5 -3.3 -3.5 -3.4 -3.5
-3.1 -2.7 -2.5 -3.1 -3.2 -3.2 -4.0 -4.2 -3.5 -3.2 -3.7 -4.2 -4.5 -3.9 -3.6 -3.4 -2.9 -2.5 -2.3 -2.5 -2.3 -2.1 -2.3 -2.6 -2.8 -2.7 -2.2 -1.8 -1.6 -2.1 -2.3 -2.2 -2.7 -3.2 -2.9 -3.0
-2.0 -1.8 -1.7 -1.6 -1.7 -1.6 -2.0 -2.6 -2.0 -1.7 -2.0 -2.3 -2.2 -2.1 -1.8 -1.4 -1.1 -1.0 -1.0 -1.3 -1.3 -1.3 -1.5 -1.9 -2.2 -2.1 -2.2 -2.2 -2.0 -1.7 -1.7 -1.9 -2.4 -2.8 -2.8 -2.3

Figure 61. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS11 (500 - 700 hPa)
NOAA18, using all observations



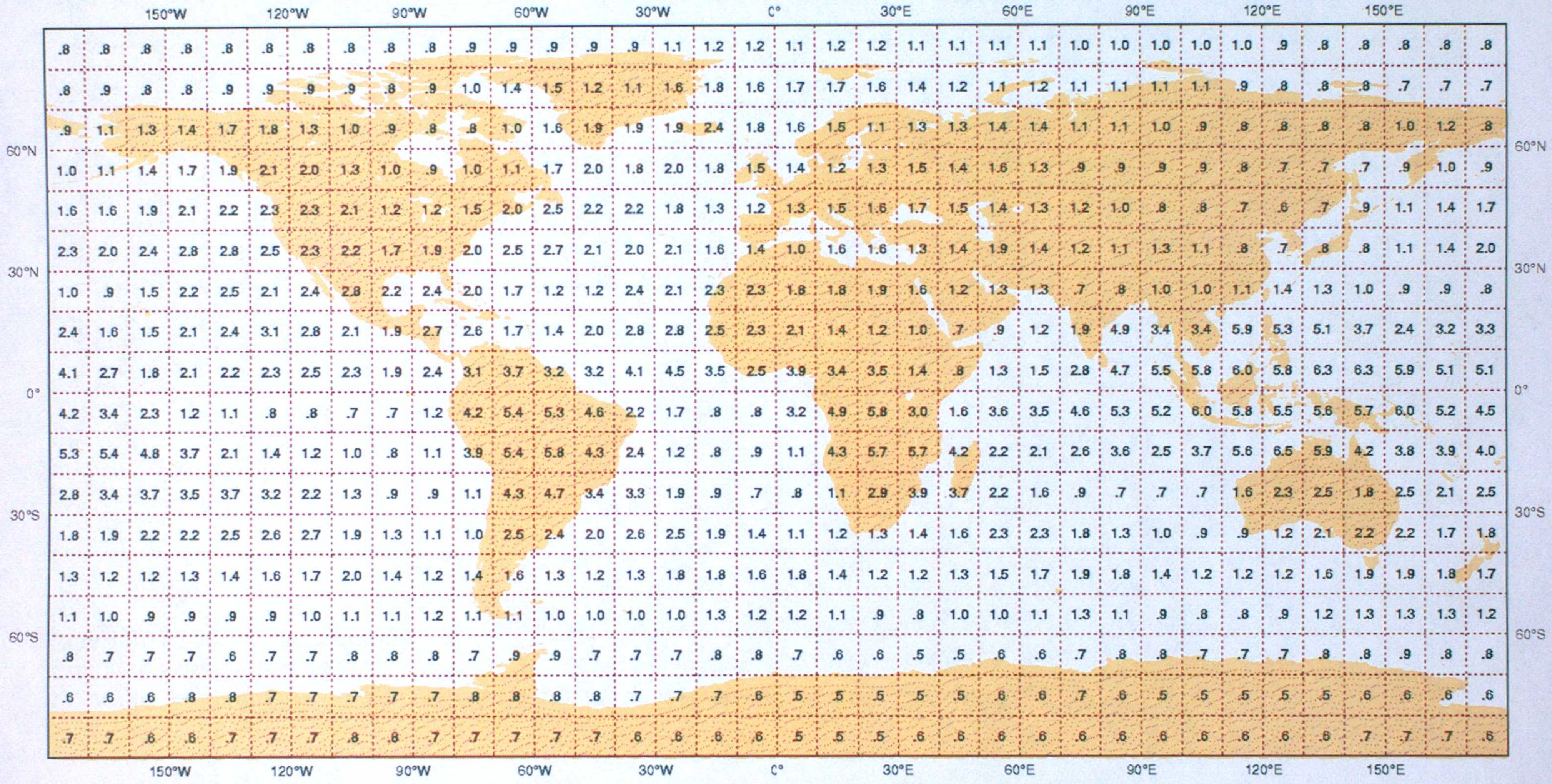
2.3	2.3	2.4	2.4	2.4	2.4	2.5	2.3	2.3	2.7	3.3	3.0	3.3	3.7	4.2	4.5	4.7	4.2	4.2	4.8	4.8	4.7	4.5	4.5	4.3	3.8	3.6	3.9	3.7	3.2	2.9	2.7	2.5	2.5	2.3	2.4
2.1	2.8	2.5	2.8	2.9	2.9	2.8	2.4	2.1	3.2	3.6	5.4	6.3	4.5	3.7	6.4	6.5	5.7	5.6	5.9	5.3	4.8	4.3	4.2	4.5	4.0	3.8	4.1	4.5	3.7	3.3	3.2	2.8	2.2	1.9	1.7
3.9	4.9	6.5	6.8	7.0	6.4	4.8	3.6	3.0	2.7	3.0	5.0	7.5	7.7	7.4	7.9	8.9	7.1	6.2	6.2	4.9	5.0	4.7	5.0	5.3	4.3	4.1	3.7	3.0	2.7	2.9	3.5	3.8	4.8	6.0	3.6
5.5	6.1	6.8	7.6	8.0	8.2	7.4	5.1	4.3	3.9	3.9	4.7	6.6	7.4	7.5	7.8	6.8	6.3	5.8	5.4	5.7	5.9	6.1	5.8	5.3	4.0	4.1	4.7	4.2	3.6	3.3	3.3	4.3	5.6	5.5	4.9
7.9	8.0	8.6	8.8	9.0	9.2	8.6	7.4	5.2	5.4	6.1	7.9	9.2	8.7	8.6	7.2	5.0	5.0	5.9	7.1	7.6	7.0	6.8	6.3	6.0	6.0	5.6	4.3	3.4	3.1	3.0	4.7	6.6	7.2	8.1	8.4
8.7	8.3	9.3	10.4	10.0	9.3	8.1	7.3	6.3	7.2	7.8	8.7	9.2	8.0	8.1	7.7	6.2	5.4	4.7	6.9	6.1	6.0	6.5	7.4	5.6	6.8	6.2	6.3	5.2	3.4	3.0	4.5	4.9	5.9	7.3	8.2
3.9	3.9	5.3	7.7	8.3	7.6	7.8	8.2	7.4	7.7	6.7	5.7	4.4	4.2	8.4	8.4	7.8	6.9	5.9	6.3	6.2	6.3	4.9	4.5	4.2	2.7	3.5	4.0	3.7	3.4	3.9	3.3	2.9	2.7	3.0	3.1
5.3	3.7	4.2	6.8	7.2	9.4	7.9	6.6	6.0	7.5	7.1	4.8	3.9	6.2	8.3	8.4	7.6	6.7	6.2	4.0	3.8	3.5	2.2	2.8	3.2	4.9	12.2	8.4	7.7	13.6	12.8	11.6	8.5	6.0	7.4	7.4
10.6	7.5	5.1	6.3	7.1	7.3	7.4	7.3	5.7	7.2	8.7	9.6	8.7	8.6	10.8	12.0	10.1	7.0	10.0	8.5	9.2	4.4	2.3	3.6	4.3	7.6	11.2	13.1	13.4	13.8	13.5	14.5	14.6	14.0	12.5	12.9
10.1	8.3	5.5	3.5	3.4	1.9	1.8	1.3	1.5	2.8	10.7	13.3	13.0	11.6	6.1	5.2	1.9	1.9	8.1	12.4	14.6	8.5	4.3	9.5	9.4	11.7	13.1	12.9	13.9	13.5	13.0	13.1	13.6	13.9	12.2	10.7
12.7	13.0	11.6	9.9	6.1	3.6	2.7	2.4	2.4	2.8	9.9	13.9	14.2	11.1	6.9	3.6	2.1	2.2	2.7	10.6	14.3	14.2	11.1	5.7	5.5	6.8	8.7	5.8	8.2	12.7	14.7	13.4	9.9	9.2	9.7	10.5
8.4	9.6	10.2	9.5	10.5	8.6	6.3	4.0	2.6	2.4	3.3	12.1	12.9	10.0	9.9	5.9	2.6	1.7	2.8	4.0	8.7	10.0	9.7	6.3	4.5	2.7	2.0	1.4	1.6	4.0	6.8	7.0	5.8	7.6	6.6	8.6
6.5	6.7	7.2	7.1	8.0	8.3	8.7	6.2	4.7	4.2	3.7	8.9	8.6	7.8	9.0	8.7	6.3	4.7	3.9	4.4	4.8	5.5	5.7	7.4	7.9	6.3	4.6	3.6	3.4	3.5	4.7	7.1	7.3	7.6	7.3	7.1
5.5	4.6	5.1	5.3	5.5	5.9	6.3	6.9	5.3	4.6	5.6	6.8	5.7	5.1	5.9	6.9	6.9	6.2	6.3	5.2	4.9	5.4	5.9	6.3	6.8	7.3	6.6	5.8	5.1	5.3	5.3	6.6	7.5	7.7	7.2	7.2
5.0	4.0	3.8	4.1	4.4	4.3	4.5	4.9	4.6	4.8	5.1	5.1	4.2	4.6	5.0	5.0	5.4	5.5	5.2	4.6	3.5	3.6	4.5	4.7	5.1	5.4	4.8	4.0	3.9	3.8	4.4	5.5	6.0	6.0	5.5	5.3
4.1	3.6	3.3	3.4	3.4	3.7	3.9	4.1	4.2	4.0	3.4	4.6	4.2	3.4	3.5	3.9	4.1	3.9	3.3	3.3	2.8	2.6	2.8	3.5	3.5	3.7	4.0	3.7	3.6	3.5	3.8	3.9	4.1	4.5	4.3	4.3
3.4	3.3	3.3	4.5	4.4	4.1	4.3	4.1	4.0	3.7	4.0	4.1	4.0	3.7	3.6	3.6	3.8	3.3	2.6	2.5	2.7	2.5	2.7	2.9	3.5	3.8	2.8	2.0	1.7	2.0	2.2	2.2	2.8	3.5	3.7	3.5
3.7	3.4	3.1	3.0	3.5	2.9	3.0	3.4	2.9	2.8	3.0	3.2	3.2	2.8	2.5	2.5	2.1	1.8	1.9	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.4	2.8	3.3	4.0	4.0	3.8

Figure 62. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS4 (400 hPa)
NOAA18, using all observations



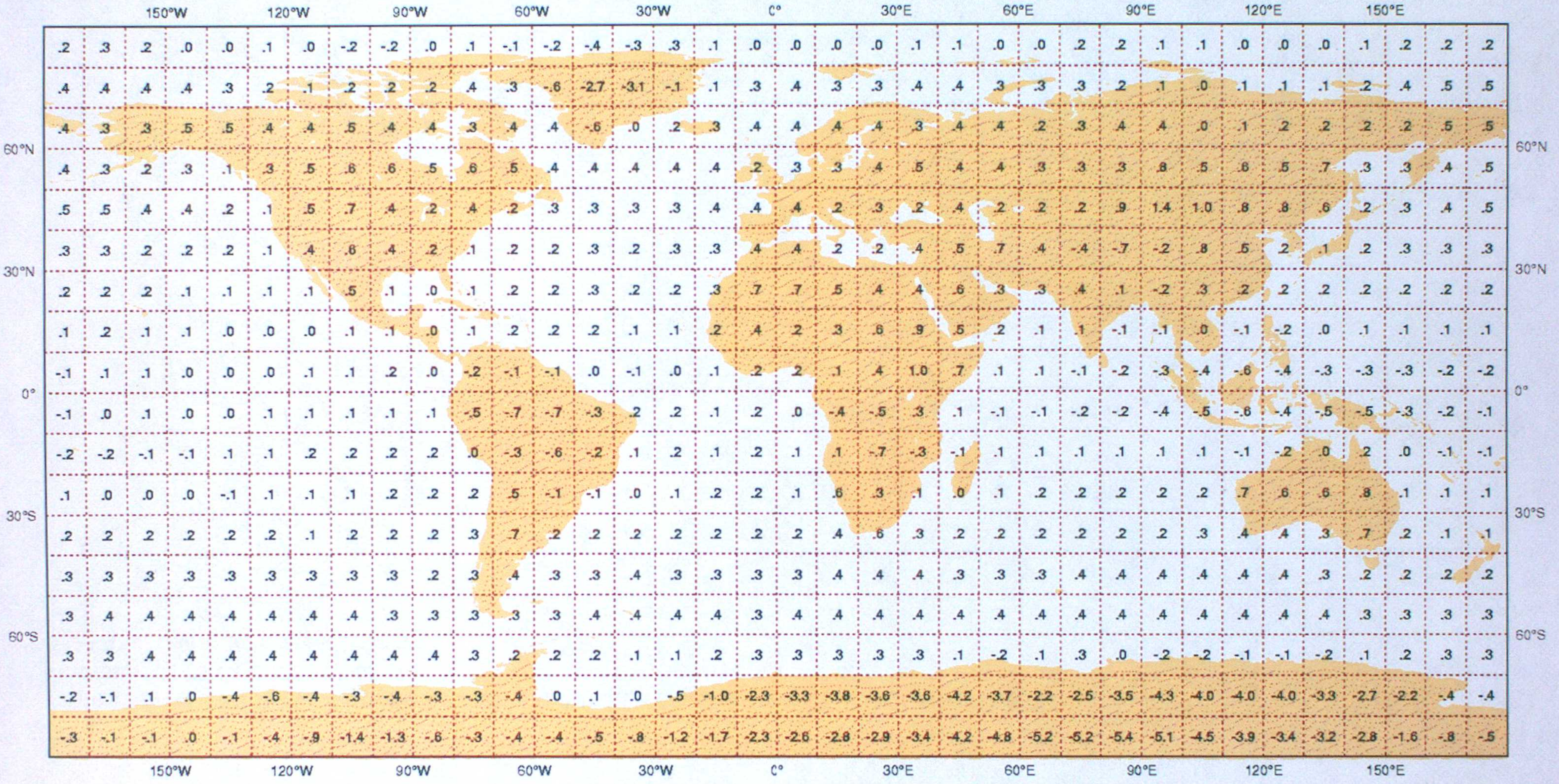
-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.7	-.7	-.8	-.8	-.9	-1.0	-1.1	-1.1	-1.1	-1.1	-1.1	-1.0	-1.0	-1.0	-1.0	-.9	-.9	-1.0	-1.0	-.9	-.8	-.7	-.6	-.6	-.6	-.6
-.4	-.6	-.6	-.6	-.6	-.6	-.7	-.6	-.5	-.6	-.6	-.8	-1.0	-1.0	-.9	-1.3	-1.5	-1.4	-1.3	-1.3	-1.1	-1.0	-.9	-.9	-1.0	-1.0	-1.0	-1.1	-1.1	-.9	-.8	-.7	-.6	-.4	-.4	-.4
-.6	-.8	-1.2	-1.2	-1.3	-1.2	-1.0	-.7	-.5	-.4	-.4	-.6	-1.2	-1.5	-1.7	-1.9	-2.0	-1.5	-1.4	-1.2	-1.0	-1.1	-1.2	-1.3	-1.3	-1.1	-1.0	-.9	-.9	-.7	-.6	-.6	-.6	-.5	-.5	-.4
-.8	-1.0	-1.2	-1.6	-2.0	-1.9	-1.5	-1.0	-.9	-.7	-.6	-.7	-1.2	-1.6	-1.6	-1.9	-1.6	-1.5	-1.3	-1.1	-1.2	-1.3	-1.3	-1.3	-1.2	-.9	-.8	-.8	-.8	-.6	-.4	-.4	-.5	-.6	-.7	-.7
-1.1	-1.2	-1.5	-1.9	-2.2	-2.3	-2.2	-1.5	-1.0	-1.0	-1.1	-1.4	-1.9	-1.9	-1.9	-1.7	-1.1	-1.0	-1.0	-1.2	-1.4	-1.5	-1.3	-1.2	-1.1	-.9	-.8	-.6	-.5	-.4	-.3	-.4	-.7	-.8	-1.0	-1.1
-1.8	-1.9	-2.2	-3.0	-3.0	-2.4	-2.2	-1.8	-1.4	-1.6	-1.8	-2.2	-2.3	-1.8	-1.6	-1.6	-1.1	-1.0	-.8	-1.3	-1.4	-1.2	-1.3	-1.5	-1.0	-.9	-.8	-1.0	-.9	-.7	-.6	-.7	-.8	-1.0	-1.2	-1.5
-1.0	-1.0	-1.2	-1.9	-2.2	-1.8	-2.0	-2.3	-1.9	-2.0	-1.7	-1.3	-1.1	-.9	-1.6	-1.7	-1.9	-1.9	-1.4	-1.5	-1.6	-1.4	-1.1	-1.0	-1.0	-.7	-.9	-1.0	-1.0	-1.1	-1.1	-1.1	-1.0	-.9	-.8	-.9
-1.3	-1.0	-1.0	-1.6	-1.8	-2.5	-2.2	-1.7	-1.4	-1.9	-2.0	-1.3	-1.1	-1.4	-2.2	-2.5	-2.3	-1.9	-1.7	-1.2	-1.0	-.9	-.8	-.9	-1.0	-1.2	-3.5	-2.4	-2.5	-5.0	-4.7	-4.2	-2.6	-1.8	-2.1	-2.0
-2.8	-1.8	-1.3	-1.4	-1.5	-1.4	-1.4	-1.3	-1.2	-1.6	-2.3	-2.8	-2.6	-2.5	-3.2	-3.6	-2.4	-1.5	-2.6	-2.7	-2.6	-1.1	-.9	-1.0	-1.1	-1.9	-3.6	-5.9	-6.4	-7.0	-6.2	-7.3	-6.9	-6.6	-5.3	-4.5
-2.9	-2.3	-1.6	-1.0	-.9	-.8	-.8	-.7	-.7	-1.0	-3.8	-5.5	-5.2	-4.0	-1.6	-1.2	-.8	-.7	-2.0	-5.0	-6.1	-2.3	-1.3	-2.4	-2.3	-3.5	-4.5	-5.6	-8.2	-8.8	-7.7	-8.0	-7.1	-6.3	-5.3	-4.0
-4.5	-4.8	-3.6	-2.6	-1.5	-1.1	-1.0	-.9	-.8	-.9	-3.2	-5.5	-6.0	-4.4	-1.8	-1.0	-.8	-.8	-1.0	-3.4	-6.2	-5.1	-3.5	-1.5	-1.3	-1.7	-2.3	-1.6	-2.7	-5.6	-7.1	-6.1	-3.5	-2.5	-2.9	-3.2
-2.3	-2.8	-3.2	-3.0	-3.5	-2.8	-1.8	-1.1	-.8	-.9	-1.0	-2.6	-3.2	-2.8	-2.9	-1.5	-.8	-.7	-.9	-1.0	-2.2	-2.7	-2.8	-1.8	-1.1	-.9	-.8	-.8	-.8	-1.1	-1.7	-2.0	-1.5	-1.6	-1.4	-1.8
-1.4	-1.4	-1.6	-1.7	-2.0	-2.3	-2.5	-1.6	-1.1	-1.0	-.9	-1.6	-1.6	-1.6	-2.1	-2.4	-1.6	-1.1	-1.0	-1.0	-1.0	-1.1	-1.2	-1.6	-1.8	-1.5	-1.2	-.9	-.9	-.9	-1.0	-1.6	-1.6	-1.6	-1.6	-1.6
-1.1	-1.0	-1.1	-1.1	-1.1	-1.2	-1.4	-1.6	-1.2	-1.1	-1.2	-1.4	-1.1	-.9	-1.0	-1.4	-1.5	-1.3	-1.4	-1.1	-1.0	-.9	-1.0	-1.1	-1.3	-1.5	-1.4	-1.2	-1.0	-.9	-1.0	-1.3	-1.5	-1.6	-1.7	-1.6
-.9	-.7	-.6	-.6	-.7	-.7	-.8	-.9	-.9	-.9	-.9	-.9	-.6	-.6	-.7	-.6	-.7	-.9	-.9	-.8	-.5	-.4	-.5	-.5	-.7	-.7	-.7	-.6	-.5	-.6	-.6	-.9	-1.1	-1.1	-1.1	-1.0
-.7	-.5	-.4	-.4	-.4	-.4	-.5	-.6	-.6	-.5	-.4	-.4	-.4	-.3	-.4	-.4	-.5	-.5	-.4	-.4	-.2	-.2	-.2	-.3	-.3	-.4	-.5	-.5	-.4	-.5	-.6	-.6	-.6	-.7	-.7	-.8
-.5	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.4	-.3	-.2	-.1	-.2	-.2	-.3	-.4	-.5	-.5	-.5
-.3	-.3	-.2	-.2	-.3	-.2	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.1	-.1	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.3	-.4	-.4	-.3

Figure 63. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: HIRS4 (400 hPa)
NOAA18, using all observations



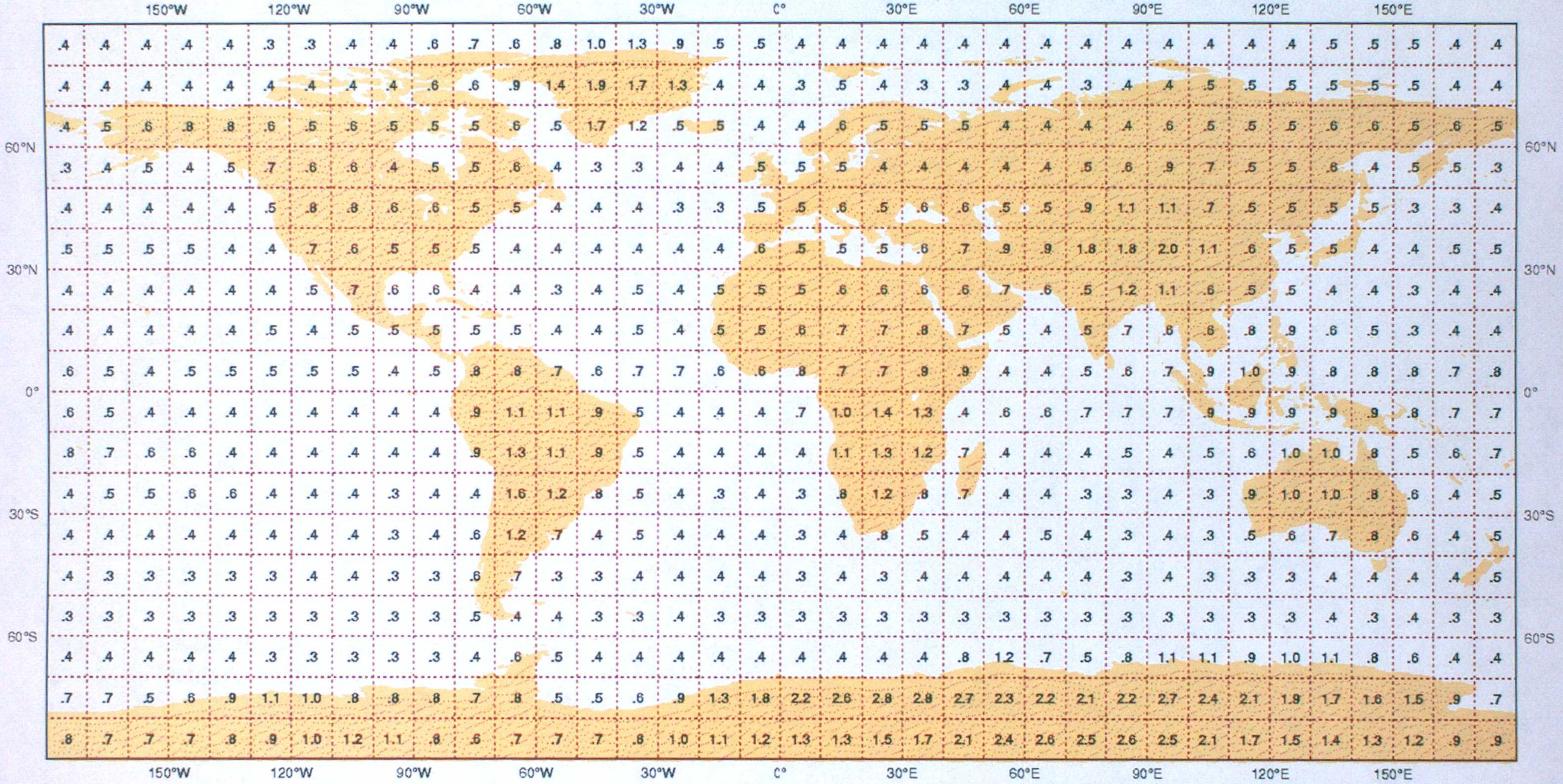
.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.9	.9	.9	.9	.9	1.1	1.2	1.2	1.1	1.2	1.2	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	.9	.8	.8	.8	.8	.8
.8	.9	.8	.8	.9	.9	.9	.9	.8	.9	1.0	1.4	1.5	1.2	1.1	1.6	1.8	1.6	1.7	1.7	1.6	1.4	1.2	1.1	1.2	1.1	1.1	1.1	1.1	.9	.8	.8	.8	.7	.7	.7
.9	1.1	1.3	1.4	1.7	1.8	1.3	1.0	.9	.8	.8	1.0	1.6	1.9	1.9	1.9	2.4	1.8	1.6	1.5	1.1	1.3	1.3	1.4	1.4	1.1	1.1	1.0	.9	.8	.8	.8	.8	1.0	1.2	.8
1.0	1.1	1.4	1.7	1.9	2.1	2.0	1.3	1.0	.9	1.0	1.1	1.7	2.0	1.8	2.0	1.8	1.5	1.4	1.2	1.3	1.5	1.4	1.6	1.3	.9	.9	.9	.9	.8	.7	.7	.7	.9	1.0	.9
1.6	1.6	1.9	2.1	2.2	2.3	2.3	2.1	1.2	1.2	1.5	2.0	2.5	2.2	2.2	1.8	1.3	1.2	1.3	1.5	1.6	1.7	1.5	1.4	1.3	1.2	1.0	.8	.8	.7	.6	.7	.9	1.1	1.4	1.7
2.3	2.0	2.4	2.8	2.8	2.5	2.3	2.2	1.7	1.9	2.0	2.5	2.7	2.1	2.0	2.1	1.6	1.4	1.0	1.6	1.6	1.3	1.4	1.9	1.4	1.2	1.1	1.3	1.1	.8	.7	.8	.8	1.1	1.4	2.0
1.0	.9	1.5	2.2	2.5	2.1	2.4	2.8	2.2	2.4	2.0	1.7	1.2	1.2	2.4	2.1	2.3	2.3	1.8	1.8	1.9	1.6	1.2	1.3	1.3	.7	.8	1.0	1.0	1.1	1.4	1.3	1.0	.9	.9	.8
2.4	1.6	1.5	2.1	2.4	3.1	2.8	2.1	1.9	2.7	2.6	1.7	1.4	2.0	2.8	2.8	2.5	2.3	2.1	1.4	1.2	1.0	.7	.9	1.2	1.9	4.9	3.4	3.4	5.9	5.3	5.1	3.7	2.4	3.2	3.3
4.1	2.7	1.8	2.1	2.2	2.3	2.5	2.3	1.9	2.4	3.1	3.7	3.2	3.2	4.1	4.5	3.5	2.5	3.9	3.4	3.5	1.4	.8	1.3	1.5	2.8	4.7	5.5	5.8	6.0	5.8	6.3	6.3	5.9	5.1	5.1
4.2	3.4	2.3	1.2	1.1	.8	.8	.7	.7	1.2	4.2	5.4	5.3	4.6	2.2	1.7	.8	.8	3.2	4.9	5.8	3.0	1.6	3.6	3.5	4.6	5.3	5.2	6.0	5.8	5.5	5.6	5.7	6.0	5.2	4.5
5.3	5.4	4.8	3.7	2.1	1.4	1.2	1.0	.8	1.1	3.9	5.4	5.8	4.3	2.4	1.2	.8	.9	1.1	4.3	5.7	5.7	4.2	2.2	2.1	2.6	3.6	2.5	3.7	5.6	6.5	5.9	4.2	3.8	3.9	4.0
2.8	3.4	3.7	3.5	3.7	3.2	2.2	1.3	.9	.9	1.1	4.3	4.7	3.4	3.3	1.9	.9	.7	.8	1.1	2.9	3.9	3.7	2.2	1.6	.9	.7	.7	.7	1.6	2.3	2.5	1.8	2.5	2.1	2.5
1.8	1.9	2.2	2.2	2.5	2.6	2.7	1.9	1.3	1.1	1.0	2.5	2.4	2.0	2.6	2.5	1.9	1.4	1.1	1.2	1.3	1.4	1.6	2.3	2.3	1.8	1.3	1.0	.9	.9	1.2	2.1	2.2	2.2	1.7	1.8
1.3	1.2	1.2	1.3	1.4	1.6	1.7	2.0	1.4	1.2	1.4	1.6	1.3	1.2	1.3	1.8	1.8	1.6	1.8	1.4	1.2	1.2	1.3	1.5	1.7	1.9	1.8	1.4	1.2	1.2	1.2	1.6	1.9	1.9	1.8	1.7
1.1	1.0	.9	.9	.9	.9	1.0	1.1	1.1	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.3	1.2	1.2	1.1	.9	.8	1.0	1.0	1.1	1.3	1.1	.9	.8	.8	.9	1.2	1.3	1.3	1.3	1.2
.8	.7	.7	.7	.6	.7	.7	.8	.8	.8	.7	.9	.9	.7	.7	.7	.8	.8	.7	.6	.6	.5	.5	.6	.6	.7	.8	.8	.7	.7	.7	.8	.8	.9	.8	.8
.6	.6	.6	.8	.8	.7	.7	.7	.7	.7	.8	.8	.8	.8	.7	.7	.7	.6	.5	.5	.5	.5	.5	.6	.6	.7	.6	.5	.5	.5	.5	.5	.6	.6	.6	.6
.7	.7	.6	.6	.7	.7	.7	.8	.8	.7	.7	.7	.7	.7	.6	.6	.6	.6	.5	.5	.5	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.7	.7	.7	.6

Figure 64. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: AMSUA-5 (700 hPa)
NOAA18, using all observations



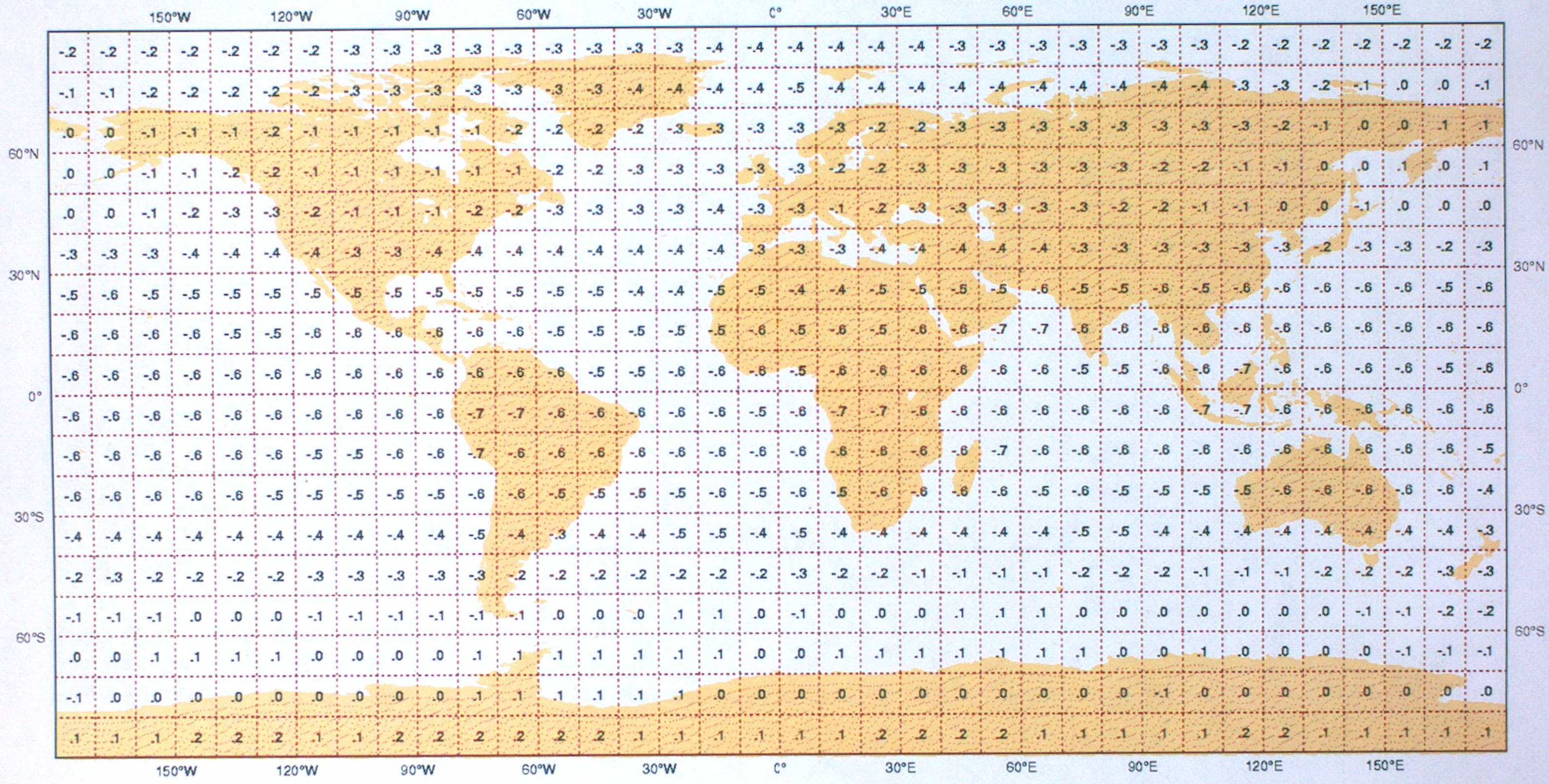
.2	.3	.2	.0	.0	.1	.0	-.2	-.2	.0	.1	-.1	-.2	-.4	-.3	.3	.1	.0	.0	.0	.0	.1	.1	.0	.0	.2	.2	.1	.1	.0	.0	.0	.1	.2	.2	.2
.4	.4	.4	.4	.3	.2	.1	.2	.2	.2	.4	.3	-.6	-2.7	-3.1	-.1	.1	.3	.4	.3	.3	.4	.4	.3	.3	.3	.2	.1	.0	.1	.1	.1	.2	.4	.5	.5
.4	.3	.3	.5	.5	.4	.4	.5	.4	.4	.3	.4	.4	-.6	.0	.2	.3	.4	.4	.4	.4	.3	.4	.4	.2	.3	.4	.4	.0	.1	.2	.2	.2	.2	.5	.5
.4	.3	.2	.3	.1	.3	.5	.6	.6	.5	.6	.5	.4	.4	.4	.4	.4	.2	.3	.3	.4	.5	.4	.4	.3	.3	.3	.8	.5	.6	.5	.7	.3	.3	.4	.5
.5	.5	.4	.4	.2	.1	.5	.7	.4	.2	.4	.2	.3	.3	.3	.3	.4	.4	.4	.2	.3	.2	.4	.2	.2	.2	.9	1.4	1.0	.8	.8	.6	.2	.3	.4	.5
.3	.3	.2	.2	.2	.1	.4	.6	.4	.2	.1	.2	.2	.3	.2	.3	.3	.4	.4	.2	.2	.4	.5	.7	.4	-.4	-.7	-.2	.8	.5	.2	.1	.2	.3	.3	.3
.2	.2	.2	.1	.1	.1	.1	.5	.1	.0	.1	.2	.2	.3	.2	.2	.3	.7	.7	.5	.4	.4	.6	.3	.3	.4	.1	-.2	.3	.2	.2	.2	.2	.2	.2	.2
.1	.2	.1	.1	.0	.0	.0	.1	.1	.0	.1	.2	.2	.2	.1	.1	.2	.4	.2	.3	.6	.9	.5	.2	.1	.1	-.1	-.1	.0	-.1	-.2	.0	.1	.1	.1	.1
-.1	.1	.1	.0	.0	.0	.1	.1	.2	.0	-.2	-.1	-.1	.0	-.1	.0	.1	.2	.2	.1	.4	1.0	.7	.1	.1	-.1	-.2	-.3	-.4	-.6	-.4	-.3	-.3	-.3	-.2	-.2
-.1	.0	.1	.0	.0	.1	.1	.1	.1	.1	-.5	-.7	-.7	-.3	.2	.2	.1	.2	.0	-.4	-.5	.3	.1	-.1	-.1	-.2	-.2	-.4	-.5	-.6	-.4	-.5	-.5	-.3	-.2	-.1
-.2	-.2	-.1	-.1	.1	.1	.2	.2	.2	.2	.0	-.3	-.6	-.2	.1	.2	.1	.2	.1	.1	-.7	-.3	-.1	.1	.1	.1	.1	.1	.1	-.1	-.2	.0	.2	.0	-.1	-.1
.1	.0	.0	.0	-.1	.1	.1	.1	.2	.2	.2	.5	-.1	-.1	.0	.1	.2	.2	.1	.6	.3	.1	.0	.1	.2	.2	.2	.2	.2	.7	.6	.6	.8	.1	.1	.1
.2	.2	.2	.2	.2	.2	.1	.2	.2	.2	.3	.7	.2	.2	.2	.2	.2	.2	.2	.4	.6	.3	.2	.2	.2	.2	.2	.2	.3	.4	.4	.3	.7	.2	.1	.1
.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.3	.4	.3	.3	.4	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.3	.2	.2	.2
.3	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.4	.4	.4	.4	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3
.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.3	.2	.2	.2	.1	.1	.2	.3	.3	.3	.3	.3	.1	-.2	.1	.3	.0	-.2	-.2	-.1	-.1	-.2	.1	.2	.3	.3
-.2	-.1	.1	.0	-.4	-.6	-.4	-.3	-.4	-.3	-.3	-.4	.0	.1	.0	-.5	-1.0	-2.3	-3.3	-3.8	-3.6	-3.6	-4.2	-3.7	-2.2	-2.5	-3.5	-4.3	-4.0	-4.0	-4.0	-3.3	-2.7	-2.2	-.4	-.4
-.3	-.1	-.1	.0	-.1	-.4	-.9	-1.4	-1.3	-.6	-.3	-.4	-.4	-.5	-.8	-1.2	-1.7	-2.3	-2.6	-2.8	-2.9	-3.4	-4.2	-4.8	-5.2	-5.2	-5.4	-5.1	-4.5	-3.9	-3.4	-3.2	-2.8	-1.6	-.8	-.5

Figure 65. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: AMSUA-5 (700 hPa)
NOAA18, using all observations



.4	.4	.4	.4	.4	.3	.3	.4	.4	.6	.7	.6	.8	1.0	1.3	.9	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.4	.4
.4	.4	.4	.4	.4	.4	.4	.4	.4	.6	.6	.9	1.4	1.9	1.7	1.3	.4	.4	.3	.5	.4	.3	.3	.4	.4	.3	.4	.4	.5	.5	.5	.5	.5	.5	.4	.4
.4	.5	.6	.8	.8	.6	.5	.6	.5	.5	.5	.6	.5	1.7	1.2	.5	.5	.4	.4	.6	.5	.5	.5	.4	.4	.4	.4	.6	.5	.5	.5	.6	.6	.5	.6	.5
.3	.4	.5	.4	.5	.7	.6	.6	.4	.5	.5	.6	.4	.3	.3	.4	.4	.5	.5	.5	.4	.4	.4	.4	.4	.5	.6	.9	.7	.5	.5	.6	.4	.5	.5	.3
.4	.4	.4	.4	.4	.5	.8	.8	.6	.6	.5	.5	.4	.4	.4	.3	.3	.5	.5	.6	.5	.6	.6	.5	.5	.9	1.1	1.1	.7	.5	.5	.5	.5	.3	.3	.4
.5	.5	.5	.5	.4	.4	.7	.6	.5	.5	.5	.4	.4	.4	.4	.4	.4	.6	.5	.5	.5	.6	.7	.9	.9	1.8	1.8	2.0	1.1	.6	.5	.5	.4	.4	.5	.5
.4	.4	.4	.4	.4	.4	.5	.7	.6	.6	.4	.4	.3	.4	.5	.4	.5	.5	.5	.6	.6	.6	.6	.7	.6	.5	1.2	1.1	.6	.5	.5	.4	.4	.3	.4	.4
.4	.4	.4	.4	.4	.5	.4	.5	.5	.5	.5	.5	.4	.4	.5	.4	.5	.5	.6	.7	.7	.8	.7	.5	.4	.5	.7	.6	.6	.8	.9	.6	.5	.3	.4	.4
.6	.5	.4	.5	.5	.5	.5	.5	.4	.5	.8	.8	.7	.6	.7	.7	.6	.6	.8	.7	.7	.9	.9	.4	.4	.5	.6	.7	.9	1.0	.9	.8	.8	.8	.7	.8
.6	.5	.4	.4	.4	.4	.4	.4	.4	.4	.9	1.1	1.1	.9	.5	.4	.4	.4	.7	1.0	1.4	1.3	.4	.6	.6	.7	.7	.7	.9	.9	.9	.9	.9	.8	.7	.7
.8	.7	.6	.6	.4	.4	.4	.4	.4	.4	.9	1.3	1.1	.9	.5	.4	.4	.4	.4	1.1	1.3	1.2	.7	.4	.4	.4	.5	.4	.5	.6	1.0	1.0	.8	.5	.6	.7
.4	.5	.5	.6	.6	.4	.4	.4	.3	.4	.4	1.6	1.2	.8	.5	.4	.3	.4	.3	.8	1.2	.8	.7	.4	.4	.3	.3	.4	.3	.9	1.0	1.0	.8	.6	.4	.5
.4	.4	.4	.4	.4	.4	.4	.4	.3	.4	.6	1.2	.7	.4	.5	.4	.4	.4	.3	.4	.8	.5	.4	.4	.5	.4	.3	.4	.3	.5	.6	.7	.8	.6	.4	.5
.4	.3	.3	.3	.3	.3	.4	.4	.3	.3	.6	.7	.3	.3	.4	.4	.4	.4	.3	.4	.3	.4	.4	.4	.4	.4	.3	.4	.3	.3	.3	.4	.4	.4	.4	.5
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.5	.4	.4	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.4	.3	.3
.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.4	.6	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.8	1.2	.7	.5	.8	1.1	1.1	.9	1.0	1.1	.8	.6	.4	.4
.7	.7	.5	.6	.9	1.1	1.0	.8	.8	.8	.7	.8	.5	.5	.6	.9	1.3	1.8	2.2	2.6	2.8	2.8	2.7	2.3	2.2	2.1	2.2	2.7	2.4	2.1	1.9	1.7	1.6	1.5	.9	.7
.8	.7	.7	.7	.8	.9	1.0	1.2	1.1	.8	.6	.7	.7	.7	.8	1.0	1.1	1.2	1.3	1.3	1.5	1.7	2.1	2.4	2.6	2.5	2.6	2.5	2.1	1.7	1.5	1.4	1.3	1.2	.9	.9

Figure 66. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: AMSUA-7 (300 hPa)
NOAA18, using all observations



-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.2	-.2
-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.2	-.1	.0	.0	-.1
.0	.0	-.1	-.1	-.1	-.2	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.1	.0	.0	.1	.1
.0	.0	-.1	-.1	-.2	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.1	-.1	.0	.0	.1	.0	.1
.0	.0	-.1	-.2	-.3	-.3	-.2	-.1	-.1	-.1	-.2	-.2	-.3	-.3	-.3	-.3	-.4	-.3	-.3	-.1	-.2	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.1	-.1	.0	.0	-.1	.0	.0	.0
-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.3	-.3	-.2	-.3
-.5	-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.5	-.5	-.4	-.4	-.5	-.5	-.5	-.5	-.6	-.5	-.5	-.6	-.5	-.6	-.6	-.6	-.6	-.6	-.5	-.6
-.6	-.6	-.6	-.6	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.5	-.6	-.5	-.6	-.5	-.6	-.6	-.7	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6
-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.6	-.6	-.6	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.6	-.6	-.7	-.6	-.6	-.6	-.6	-.5	-.6
-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.7	-.6	-.6	-.6	-.6	-.6	-.5	-.6	-.7	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.7	-.6	-.6	-.6	-.6	-.6	-.6
-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.6	-.6	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.5
-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.5	-.5	-.5	-.5	-.6	-.5	-.6	-.5	-.6	-.6	-.6	-.6	-.5	-.6	-.5	-.5	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.4
-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.4	-.3	-.4	-.4	-.5	-.5	-.4	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3
-.2	-.3	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.2	-.2	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.1	-.1	-.1	-.2	-.2	-.2	-.3	-.3
-.1	-.1	-.1	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	.1	.1	.0	-.1	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	-.2	-.2
.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.0	.0	.1	.1	.1	.1	.1	.1	.1	.0	.0	.1	.0	.0	.0	.0	-.1	-.1	-.1
-.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-.1	.0	.0	.0	.0	.0	.0	.0	.0
.1	.1	.1	.2	.2	.2	.1	.1	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.2	.2	.2	.2	.1	.1	.1	.1	.1	.2	.2	.1	.1	.1	.1	.1

Figure 67. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: AMSUA-7 (300 hPa)
NOAA18, using all observations

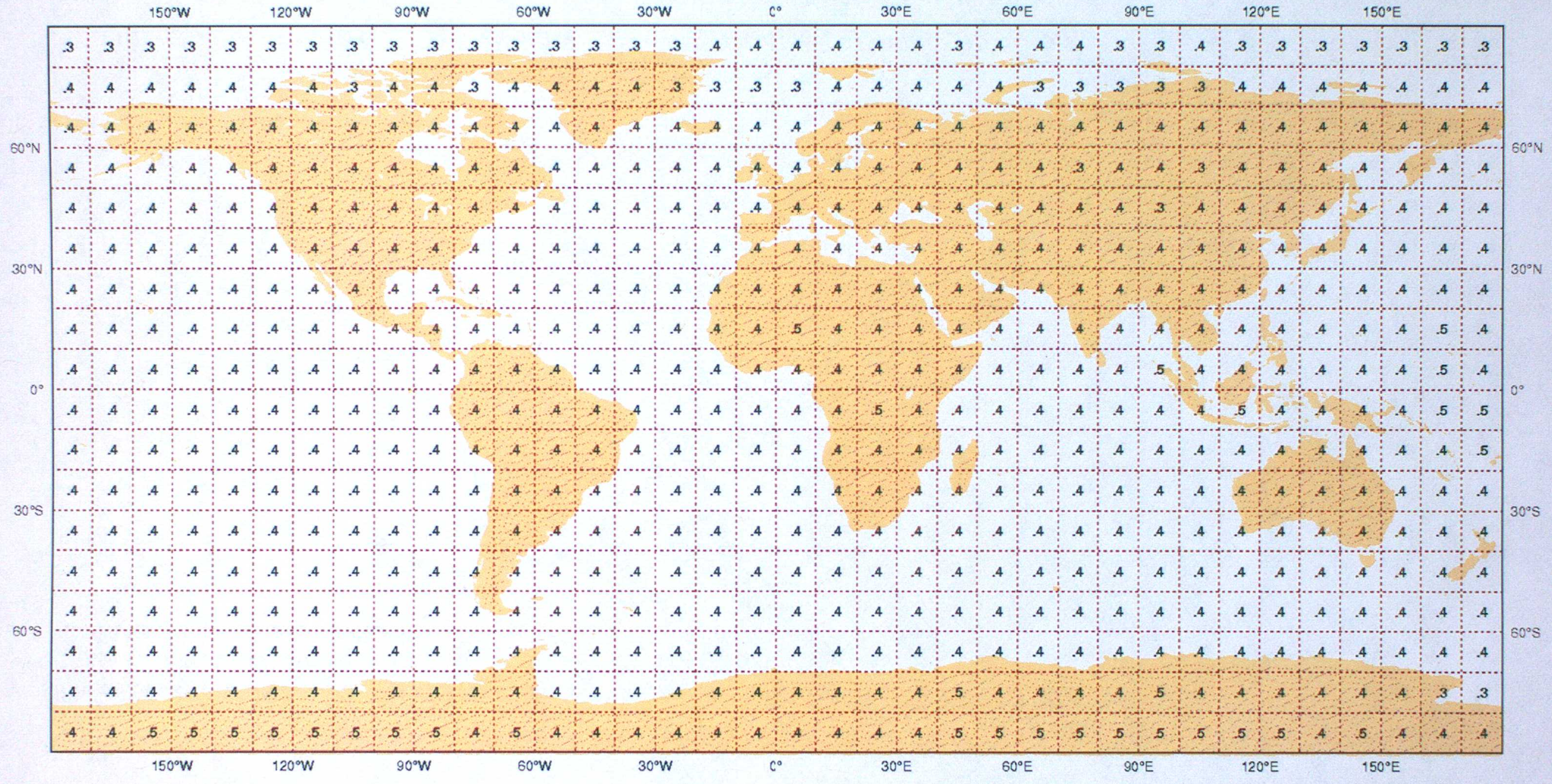
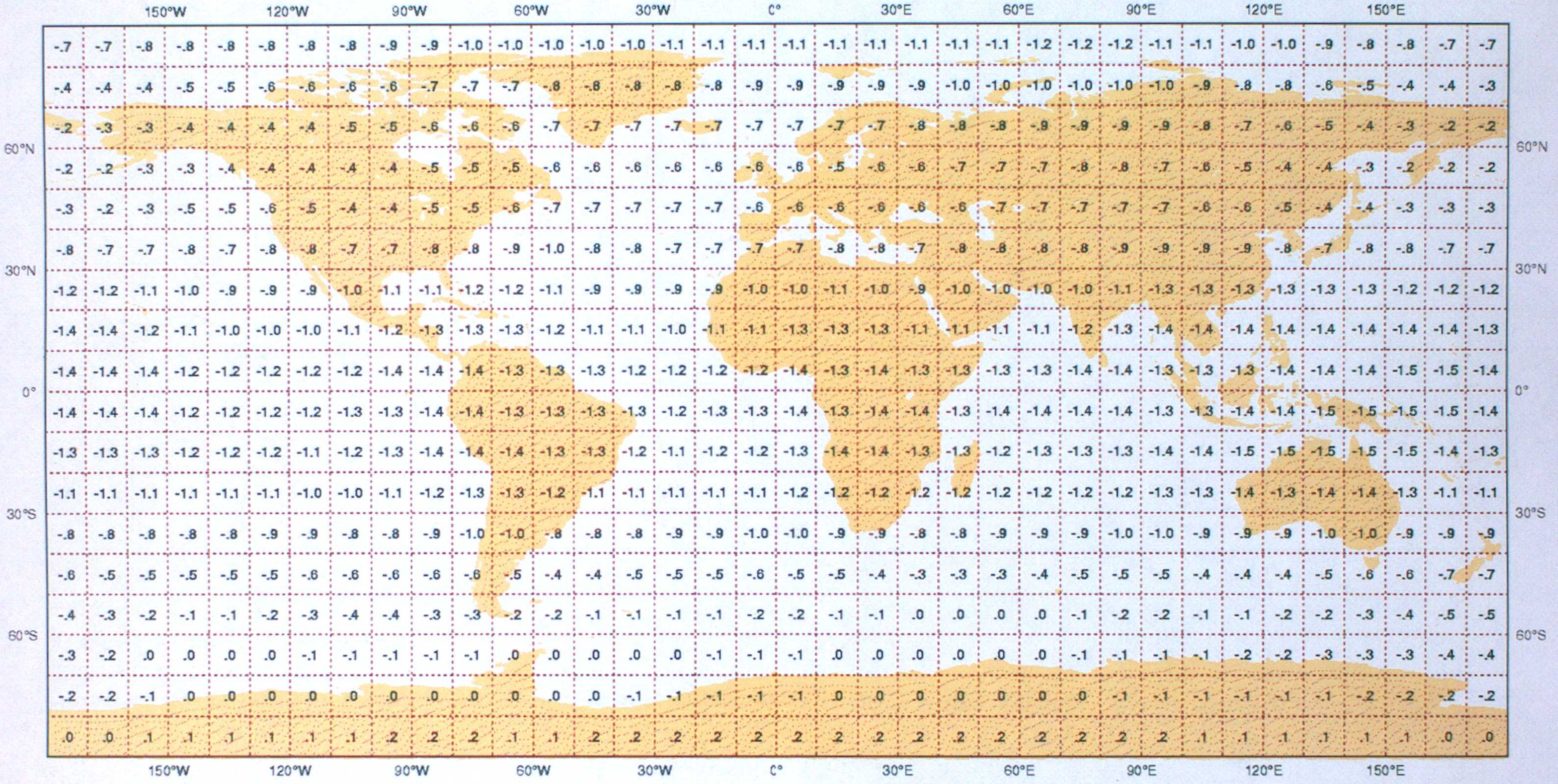

150°W 120°W 90°W 60°W 30°W 0° 30°E 60°E 90°E 120°E 150°E
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .3 .3 .4 .3 .3 .3 .3 .3 .3 .3
.4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .3 .4 .4 .4 .4 .3 .3 .3 .3 .4 .4 .4 .4 .4 .3 .3 .3 .3 .3 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
60°N .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 60°N
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
30°N .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 30°N
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .5 .4
0° .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .5 .5 0°
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
30°S .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 30°S
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
60°S .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 60°S
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .3 .3
.4 .4 .5 .5 .5 .5 .5 .5 .5 .5 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .5 .5 .5 .5 .5 .5 .5 .5 .4 .5 .4 .4 .4
150°W 120°W 90°W 60°W 30°W 0° 30°E 60°E 90°E 120°E 150°E

Figure 68. ATOVS MEAN O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: AMSUA-9 (100 hPa)
NOAA18, using all observations



-.7	-.7	-.8	-.8	-.8	-.8	-.8	-.8	-.9	-.9	-1.0	-1.0	-1.0	-1.0	-1.0	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.2	-1.2	-1.2	-1.1	-1.1	-1.0	-1.0	-.9	-.8	-.8	-.7	-.7
-.4	-.4	-.4	-.5	-.5	-.6	-.6	-.6	-.6	-.7	-.7	-.7	-.8	-.8	-.8	-.8	-.8	-.9	-.9	-.9	-.9	-.9	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-.9	-.8	-.8	-.6	-.5	-.4	-.4	-.3
-.2	-.3	-.3	-.4	-.4	-.4	-.4	-.5	-.5	-.6	-.6	-.6	-.7	-.7	-.7	-.7	-.7	-.7	-.7	-.7	-.7	-.8	-.8	-.8	-.9	-.9	-.9	-.9	-.8	-.7	-.6	-.5	-.4	-.3	-.2	-.2
-.2	-.2	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.6	-.6	-.7	-.7	-.7	-.8	-.8	-.7	-.6	-.5	-.4	-.4	-.3	-.2	-.2	-.2
-.3	-.2	-.3	-.5	-.5	-.6	-.5	-.4	-.4	-.5	-.5	-.6	-.7	-.7	-.7	-.7	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.7	-.7	-.7	-.7	-.6	-.6	-.5	-.4	-.4	-.3	-.3	-.3
-.8	-.7	-.7	-.8	-.7	-.8	-.8	-.7	-.7	-.8	-.8	-.9	-1.0	-.8	-.8	-.7	-.7	-.7	-.7	-.8	-.8	-.7	-.8	-.8	-.8	-.8	-.9	-.9	-.9	-.9	-.8	-.7	-.8	-.8	-.7	-.7
-1.2	-1.2	-1.1	-1.0	-.9	-.9	-.9	-1.0	-1.1	-1.1	-1.2	-1.2	-1.1	-.9	-.9	-.9	-.9	-1.0	-1.0	-1.1	-1.0	-.9	-1.0	-1.0	-1.0	-1.0	-1.1	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.2	-1.2	-1.2
-1.4	-1.4	-1.2	-1.1	-1.0	-1.0	-1.0	-1.1	-1.2	-1.3	-1.3	-1.3	-1.2	-1.1	-1.1	-1.0	-1.1	-1.1	-1.3	-1.3	-1.3	-1.1	-1.1	-1.1	-1.1	-1.2	-1.3	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.3
-1.4	-1.4	-1.4	-1.2	-1.2	-1.2	-1.2	-1.2	-1.4	-1.4	-1.4	-1.3	-1.3	-1.3	-1.2	-1.2	-1.2	-1.2	-1.4	-1.3	-1.4	-1.3	-1.3	-1.3	-1.3	-1.4	-1.4	-1.3	-1.3	-1.3	-1.4	-1.4	-1.4	-1.5	-1.5	-1.4
-1.4	-1.4	-1.4	-1.2	-1.2	-1.2	-1.2	-1.3	-1.3	-1.4	-1.4	-1.3	-1.3	-1.3	-1.3	-1.2	-1.3	-1.3	-1.4	-1.3	-1.4	-1.4	-1.3	-1.4	-1.4	-1.4	-1.4	-1.3	-1.3	-1.4	-1.4	-1.5	-1.5	-1.5	-1.5	-1.4
-1.3	-1.3	-1.3	-1.2	-1.2	-1.2	-1.1	-1.2	-1.3	-1.4	-1.4	-1.4	-1.3	-1.3	-1.2	-1.1	-1.2	-1.2	-1.3	-1.4	-1.4	-1.3	-1.3	-1.2	-1.3	-1.3	-1.3	-1.4	-1.4	-1.5	-1.5	-1.5	-1.5	-1.5	-1.4	-1.3
-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.0	-1.0	-1.1	-1.2	-1.3	-1.3	-1.2	-1.1	-1.1	-1.1	-1.1	-1.1	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.3	-1.3	-1.4	-1.3	-1.4	-1.4	-1.3	-1.1	-1.1
-.8	-.8	-.8	-.8	-.8	-.9	-.9	-.8	-.8	-.9	-1.0	-1.0	-.8	-.8	-.8	-.9	-.9	-1.0	-1.0	-.9	-.9	-.8	-.8	-.9	-.9	-.9	-1.0	-1.0	-.9	-.9	-.9	-1.0	-1.0	-.9	-.9	-.9
-.6	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.5	-.4	-.4	-.5	-.5	-.5	-.6	-.5	-.5	-.4	-.3	-.3	-.3	-.4	-.5	-.5	-.5	-.4	-.4	-.4	-.5	-.6	-.6	-.7	-.7
-.4	-.3	-.2	-.1	-.1	-.2	-.3	-.4	-.4	-.3	-.3	-.2	-.2	-.1	-.1	-.1	-.1	-.2	-.2	-.1	-.1	.0	.0	.0	.0	-.1	-.2	-.2	-.1	-.1	-.2	-.2	-.3	-.4	-.5	-.5
-.3	-.2	.0	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	.0	.0	-.1	-.1	-.1	.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.3	-.3	-.3	-.4	-.4
-.2	-.2	-.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2
.0	.0	.1	.1	.1	.1	.1	.1	.2	.2	.2	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.0	.0

Figure 69. ATOVS SD O-B brightness temperature differences (deg C). DECEMBER 2005
Channel: AMSUA-9 (100 hPa)
NOAA18, using all observations

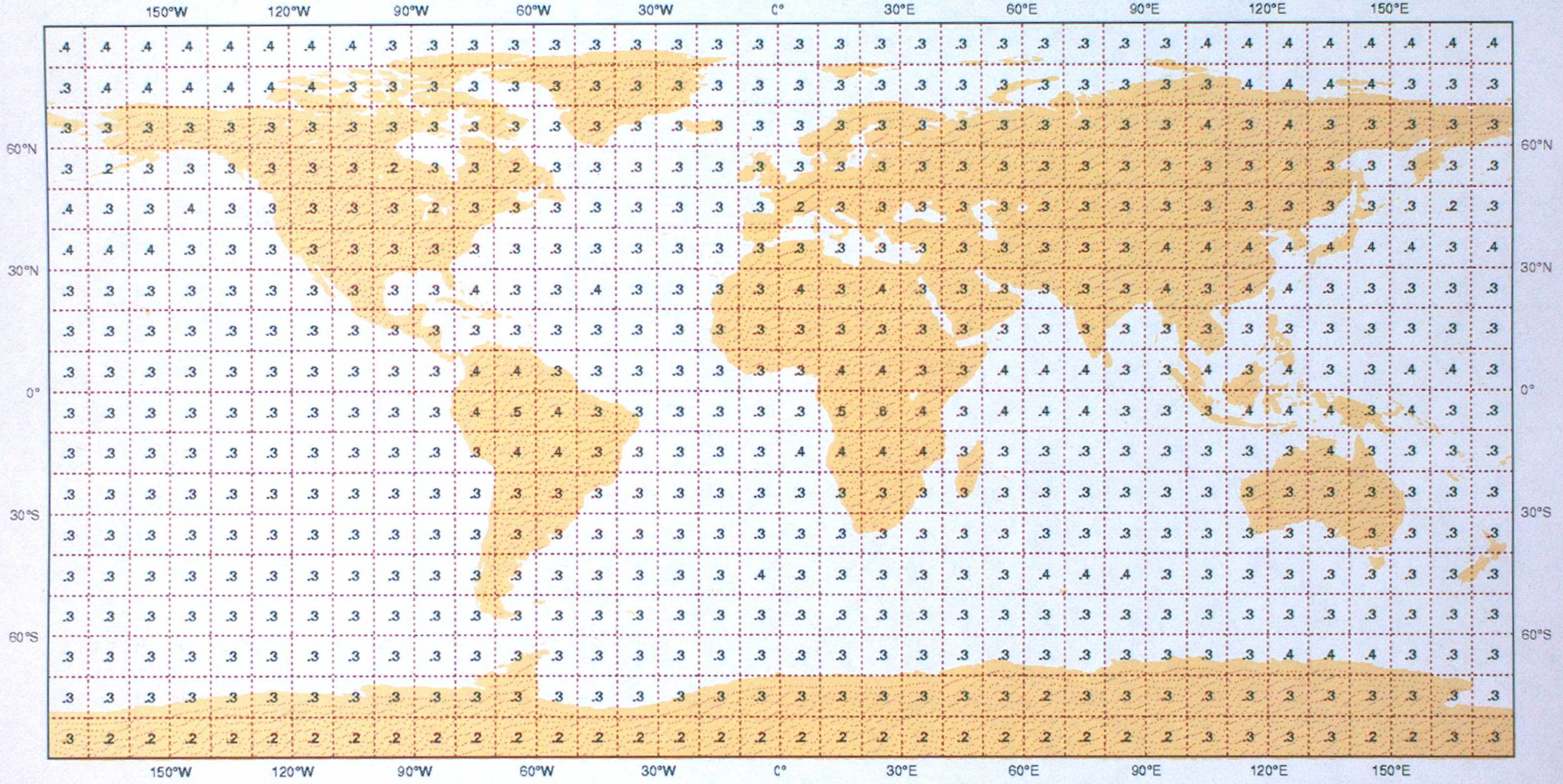

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
.4 .4 .4 .4 .4 .4 .4 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .4 .4 .4 .4 .4 .4 .4
.3 .4 .4 .4 .4 .4 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .4 .4 .4 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3 .4 .3 .3 .3 .3 .3
.3 .2 .3 .3 .3 .3 .3 .3 .2 .3 .3 .2 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.4 .3 .3 .4 .3 .3 .3 .3 .3 .2 .3 .3 .3 .3 .3 .3 .3 .3 .2 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .2 .3
.4 .4 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .4 .4 .4 .4 .4 .4 .3 .4
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3 .3 .4 .3 .3 .3 .3 .4 .3 .4 .3 .3 .3 .3 .3 .3 .4 .3 .4 .4 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .4 .3 .3 .3 .3 .3 .3 .3 .4 .4 .3 .3 .4 .4 .4 .3 .3 .4 .3 .4 .3 .3 .4 .4 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .5 .4 .3 .3 .3 .3 .3 .3 .5 .6 .4 .3 .4 .4 .4 .3 .3 .3 .4 .4 .4 .3 .4 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .4 .3 .3 .3 .3 .3 .4 .4 .4 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3 .3 .3 .3 .3 .3 .4 .4 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .4 .4 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .2 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .3 .3 .3 .3 .2 .2 .3 .3

TABLE 8

MONTHLY MONITORING OF MARINE SURFACE OBSERVATIONS (COSNA)
DATA TYPE:- DRIFTER
MONITORING CENTRE: EXETER
MONTH: Dec 05

Monitoring procedures		
Period		:One calendar month.
Data monitored		:Reports from each unique identifier for drifting buoy.
Area monitored		:10°N - 80°N, 85°W - 0°W
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:All hours combined.
Elements monitored		:Mean sea-level pressure (hPa) :Wind speed (m s^{-1}) :Wind direction (degrees)
Parameters monitored		
	:NOBS	:Number of observations received excluding duplicates.
	:NGE	:Number of observations with gross errors.
	:PGE	:Percentage of observations with gross errors.
	:SD	:SD of difference of observations from background values excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors. **N.B. A positive bias indicates the wind observation is veered to the background**
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors
GROSS ERROR LIMITS	:15 hPa (pressure) :25 m s^{-1} (Vector Wind)	

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
13534	29.3	-40.2	P	746	0	1	0.8	-0.1	0.8
41501	14.2	-61.7	P	728	0	8	0.5	-0.7	0.8
41502	13.0	-57.5	P	693	0	7	0.5	-0.2	0.5
41525	24.3	-71.1	P	700	0	8	0.5	-0.1	0.5
41528	27.7	-74.4	P	317	89	97	5.8	-5.7	8.2
41532	15.1	-45.3	P	162	28	37	0.5	1.1	1.2
41533	10.8	-45.3	P	584	1	7	0.8	1.1	1.3
41535	10.2	-49.4	P	585	0	8	0.8	1.0	1.3
41536	10.7	-56.2	P	146	0	51	1.3	0.3	1.3
41537	10.4	-51.2	P	89	0	45	1.3	0.2	1.3
41543	29.3	-50.0	P	721	0	9	0.8	0.4	0.9
41544	26.4	-68.3	P	995	0	33	0.5	0.1	0.5
41545	23.8	-62.3	P	717	0	7	0.5	0.9	1.0
41625	24.9	-69.9	P	642	0	6	0.5	0.4	0.6
41630	27.2	-73.3	P	684	0	7	0.5	0.0	0.5
41643	24.7	-73.4	P	673	0	8	0.5	0.1	0.5
41645	28.7	-67.4	P	900	0	30	0.6	0.5	0.7
41646	28.3	-78.0	P	641	0	6	0.6	0.3	0.6
41667	14.8	-51.4	P	1430	7	65	0.8	1.2	1.4
41927	28.9	-77.1	P	464	3	74	4.4	4.3	6.2
41931	39.5	-47.9	P	173	7	74	4.8	5.7	7.4
42570	16.4	-68.1	P	681	0	8	0.8	0.8	1.1
42571	14.7	-71.6	P	692	0	9	0.5	-0.4	0.6
42572	15.4	-77.0	P	683	0	10	0.8	0.9	1.2
42573	15.7	-56.2	P	433	8	20	2.3	0.3	2.3
44550	51.4	-10.4	P	639	0	2	0.5	0.0	0.5
44607	36.9	-33.4	P	1094	0	33	0.5	0.1	0.5
44609	47.7	-14.8	P	623	0	1	0.6	0.1	0.6
44611	59.7	-17.9	P	744	0	2	0.8	-0.2	0.8
44612	60.8	-5.7	P	696	0	2	0.5	0.1	0.5
44615	43.3	-30.4	P	744	0	1	0.8	-0.1	0.8
44635	42.3	-53.0	P	276	0	14	1.0	1.2	1.6
44636	44.1	-59.7	P	314	0	12	0.9	-0.6	1.1
44637	42.0	-64.2	P	384	0	15	0.7	0.3	0.7
44722	48.3	-19.4	P	723	0	2	0.5	-0.3	0.6
44723	58.6	-39.2	P	748	0	2	0.6	-0.2	0.7
44725	54.8	-40.8	P	737	0	1	0.6	0.6	0.8
44727	41.1	-25.9	P	740	0	1	0.5	-0.1	0.5
44728	50.5	-27.5	P	736	0	1	0.8	0.2	0.8
44729	44.5	-61.5	P	742	0	1	0.8	-0.9	1.2
44730	57.2	-39.9	P	739	0	1	0.7	-0.2	0.7
44742	53.1	-46.1	P	733	0	1	0.9	-0.4	1.0
44743	33.9	-8.8	P	685	0	2	0.4	0.4	0.6
44745	39.0	-35.7	P	376	0	3	0.4	0.2	0.5
44746	40.8	-49.2	P	367	0	39	0.8	0.8	1.2
44747	39.8	-41.2	P	303	0	3	0.7	0.2	0.8
44760	49.1	-47.3	P	731	0	2	0.8	0.3	0.8
44761	50.9	-43.8	P	739	0	2	0.9	0.0	0.9
44831	54.4	-19.9	P	747	0	10	0.7	-0.2	0.8
44832	54.6	-21.9	P	769	0	11	0.9	-0.2	0.9
44842	59.7	-11.1	P	768	0	12	0.7	-0.3	0.8
44843	62.0	-29.0	P	796	0	14	0.6	-0.3	0.7
44844	59.9	-17.7	P	776	0	13	0.8	0.0	0.8
44845	49.0	-39.1	P	730	0	10	0.7	-0.2	0.8
44846	45.0	-18.4	P	738	0	10	0.5	0.0	0.5
44847	40.1	-22.8	P	734	0	9	0.5	-0.2	0.6
44848	38.9	-37.2	P	745	0	10	0.6	0.2	0.6
44849	46.9	-31.0	P	430	0	23	3.6	-0.4	3.6
44850	42.9	-21.0	P	722	0	9	0.5	-0.3	0.5
44901	36.2	-41.3	P	722	0	10	1.3	0.5	1.4

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
44903	40.9	-63.2	P	745	0	9	0.7	0.2	0.7
47555	72.0	-73.1	P	1389	0	65	0.8	0.2	0.8
62503	44.2	-5.7	P	158	0	0	0.4	0.5	0.6
62504	43.6	-11.2	P	745	0	3	1.0	-0.3	1.0
62506	45.7	-5.8	P	183	1	8	1.0	1.0	1.4
62510	32.4	-26.9	P	787	0	7	0.6	0.0	0.6
62511	45.4	-9.1	P	706	0	1	0.6	0.8	1.0
62514	62.9	-41.6	P	695	0	1	1.0	0.1	1.0
62515	44.8	-5.4	P	750	0	2	0.5	-0.3	0.6
62556	26.3	-40.3	P	734	0	1	0.9	0.1	0.9
62557	25.5	-35.3	P	736	0	1	0.8	0.0	0.8
62560	44.0	-26.0	P	1068	0	40	0.7	-0.1	0.7
62562	49.2	-16.1	P	691	0	2	0.4	0.3	0.5
62564	36.4	-17.7	P	742	0	1	0.4	0.7	0.8
62566	61.0	-13.6	P	320	0	2	1.2	0.1	1.2
62567	36.7	-17.4	P	716	0	1	0.4	-0.5	0.6
62568	58.1	-11.1	P	738	0	2	0.5	0.6	0.8
62569	56.1	-29.3	P	736	0	1	0.8	0.5	0.9
62570	60.6	-27.8	P	754	1	5	1.8	-0.5	1.9
62571	45.9	-6.0	P	525	0	2	0.5	0.1	0.5
62572	44.4	-14.7	P	468	0	2	0.5	-0.1	0.5
62907	43.9	-1.5	P	33	0	15	0.8	-0.8	1.2
62909	46.2	-9.4	P	158	0	6	0.4	-0.2	0.4
62928	45.1	-3.7	P	25	0	0	0.3	-0.1	0.3
62930	48.4	-4.5	P	11	0	100	0.4	-7.0	7.1
62934	47.2	-9.8	P	728	0	10	0.5	0.1	0.5
62935	42.0	-21.4	P	925	0	29	0.6	-0.3	0.6
62936	50.4	-9.8	P	757	0	11	0.5	0.1	0.6
64609	62.0	-49.7	P	500	8	10	1.4	-0.5	1.5
64612	60.5	-18.0	P	745	0	2	0.8	-0.7	1.1
64613	63.5	-26.3	P	741	0	1	0.7	0.0	0.7
64614	62.7	-23.3	P	740	0	2	0.7	0.0	0.7
64929	59.9	-15.2	P	764	0	11	0.7	0.1	0.7

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
26501	77.3	-9.6	SPEED	1	100	0			
41525	24.3	-71.1	SPEED	685	0	100	2.0	0.1	2.0
41542	28.6	-77.9	SPEED	5	0	100	0.2	-1.3	1.3
41543	29.3	-50.0	SPEED	692	0	100	1.6	-3.1	3.5
41630	27.2	-73.3	SPEED	675	0	100	2.8	-0.2	2.8
41643	24.7	-73.4	SPEED	660	0	100	2.8	0.3	2.8
41645	28.7	-67.4	SPEED	891	0	100	2.4	1.1	2.6
41646	28.3	-78.0	SPEED	621	0	100	2.5	1.5	2.9
41927	28.9	-77.1	SPEED	12	50	100	2.9	-1.3	3.2
41931	39.5	-47.9	SPEED	7	57	100	4.5	3.4	5.6
41939	37.4	-53.4	SPEED	5	20	100	7.3	-3.3	8.0
62571	45.9	-6.0	SPEED	451	0	100	1.9	1.8	2.6

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
26501	77.3	-9.6	DIRN.	1	100	0			
41525	24.3	-71.1	DIRN.	348	0	0	17.5	5.6	18.4
41543	29.3	-50.0	DIRN.	161	0	0	16.6	12.1	20.5
41630	27.2	-73.3	DIRN.	302	1	0	20.5	10.0	22.8
41643	24.7	-73.4	DIRN.	274	1	0	19.2	25.8	32.2
41645	28.7	-67.4	DIRN.	579	0	0	23.1	12.7	26.4
41646	28.3	-78.0	DIRN.	430	0	0	14.9	1.6	14.9
41927	28.9	-77.1	DIRN.	8	75	0	72.9	91.9	117.3
41931	39.5	-47.9	DIRN.	7	57	0	50.3	-24.1	55.8
41939	37.4	-53.4	DIRN.	4	25	0	19.2	52.4	55.8
62571	45.9	-6.0	DIRN.	366	0	0	14.8	-1.7	14.9

TABLE 9

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Dec 05

Monitoring procedures:

Period :One calendar month.

Data monitored :Statistics for each airline carrier.

Area monitored :40°N - 70°N, 60°W - 0°W.

Standard of comparison :Background field from UKMO global model.

Observation times :All hours combined.

Level(s) monitored :300.0 - 150.0 hPa

Elements monitored :TEMP in °C ; WIND in m s^{-1}

Parameters monitored :N REP. :Number of observations received excluding duplicates.

:PG :Percentage of observations with gross errors.

:PR :Percentage of observations rejected by quality control including rejections from the duplicate check.

:PC :Percentage of observations with calm winds.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.

:BIAS :Mean difference of observations from background values excluding those with gross errors in Temperature & vector wind.

GROSS ERROR LIMITS :10.0 °C ; 60 m s^{-1} Vector Wind

SELECTION CRITERIA :N REP $\geq$ 20

NB : All American ACARS data are grouped together and statistics are shown at the bottom of the table as "US ACARS". All ADS reports are similarly grouped together.

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AAL	4606	0	5	1.3	0.2	4260	0	5	0	5.1	0.8
ACA	2176	0	4	1.4	-0.2	1800	0	3	0	5.0	0.7
ACF	51	12	49	3.3	-0.3	36	0	47	0	19.6	0.5
AEA	316	1	3	1.6	0.8	277	0	5	0	8.5	-0.1
AFL	234	0	6	1.9	0.0	67	1	19	0	14.8	0.7
AFR	4077	0	3	1.3	0.2	3985	0	2	0	6.2	0.7
AFZ	36	0	17	1.9	1.6	36	0	17	0	5.6	1.7
AJM	129	2	16	1.7	-0.4	97	0	100	0	12.3	1.6
AMT	82	0	6	2.0	0.0	71	0	0	0	5.5	0.5
AMX	361	2	6	1.7	0.2	305	0	5	0	8.8	0.7
ANZ	148	0	20	1.2	-0.4	142	0	20	0	4.4	0.5
AUA	424	0	2	1.4	0.5	413	0	1	0	4.9	0.8
AVA	45	0	0	1.3	-0.1	44	0	0	0	6.5	0.3
AZA	242	1	43	2.3	1.1	164	0	5	0	9.0	-0.1
BAL	202	0	10	1.4	0.0	197	1	12	0	6.6	0.6
BAW	596	1	11	1.6	-0.2	390	0	8	0	7.7	0.7
BHP	38	0	18	1.9	0.1	31	0	16	0	11.6	-0.9
BMA	344	0	2	1.3	-0.3	336	0	2	0	4.7	0.8
BPA	242	1	100	3.0	1.3	227	0	22	0	14.1	-0.1
BWA	152	0	1	1.7	-0.2	107	0	0	0	5.6	0.6
CFC	38	0	3	1.8	0.5	35	0	3	0	7.1	-0.7
CFG	528	0	12	1.6	0.3	373	2	18	0	13.2	-0.1
CFY	75	0	4	1.3	-0.4	75	0	4	0	4.2	0.9
CGD	22	0	5	1.5	-0.5	21	0	5	0	3.3	0.4
CGF	236	0	2	1.4	-0.4	232	0	1	0	4.4	0.7
CGH	239	0	2	1.3	-0.2	238	0	2	0	4.5	1.1
CKS	148	1	14	2.3	1.0	73	1	19	0	11.8	0.6
CLX	178	1	12	1.9	0.0	54	0	24	0	17.6	-1.6
CNJ	114	0	61	1.1	0.6	114	0	61	0	4.6	-0.1
COA	4805	0	6	1.3	0.1	4686	0	5	0	4.9	0.8
CRL	124	1	14	2.0	0.6	112	0	9	0	10.9	1.2
CSD	50	4	14	2.7	1.4	24	0	0	0	5.9	-0.5
CUB	172	1	10	1.9	-0.4	117	0	38	0	12.6	0.7
DAB	694	0	5	1.3	0.0	677	0	4	0	4.5	0.7
DAI	592	0	4	1.1	0.3	581	0	4	0	4.4	0.9
DAL	1184	0	6	1.3	0.1	1071	0	5	0	5.4	0.7
DLH	3496	0	6	1.3	0.1	3435	0	5	0	4.9	0.6
DRD	100	0	4	1.8	-0.3	99	0	3	0	5.9	0.7
EDW	26	0	4	1.6	-0.1	21	0	5	0	5.7	-0.2
EEZ	52	0	15	2.4	-0.2	49	2	12	0	10.3	1.7
EIA	51	0	35	2.3	-0.4	52	2	100	0	23.0	4.7
ELY	356	1	4	1.4	0.3	310	0	4	0	6.4	0.9
ESS	128	2	43	3.2	1.7	35	0	3	0	6.8	1.7
FCA	107	1	100	3.2	1.7	71	1	8	0	11.0	1.1
FDX	391	1	46	1.6	0.5	221	0	47	0	7.7	0.2
FGE	20	0	5	0.7	0.0	20	0	5	0	3.7	0.6
FGI	143	0	3	1.1	0.0	142	0	4	0	4.7	1.0
FGL	131	0	1	1.2	0.3	129	0	1	0	4.6	1.0
FGN	43	0	2	0.9	0.1	42	0	2	0	4.2	-0.2
FGS	519	0	2	1.2	0.3	509	0	2	0	4.4	0.8
FGZ	55	0	2	1.3	-0.1	54	0	2	0	5.0	0.5
FIN	185	1	4	1.5	0.1	148	0	5	0	8.1	0.1
FWI	189	2	20	1.9	-0.2	168	0	11	0	8.6	0.8
GCO	108	1	6	1.5	0.1	84	0	100	0	11.7	1.1
GEC	335	0	20	1.7	0.3	316	1	20	0	8.4	0.6
GGS	20	0	5	0.8	0.3	20	0	5	0	4.0	0.2
GOJ	57	0	4	1.0	0.2	56	0	4	0	5.8	1.1
GTI	87	0	5	1.6	0.2	72	0	1	0	5.5	1.4
GVA	48	0	0	1.3	-0.3	47	0	0	0	4.1	-0.5

		TEMPERATURE						WIND			
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
GVB	55	0	0	0.8	-0.2	53	0	0	0	4.7	0.4
GVF	28	0	0	1.2	-0.3	28	0	0	0	4.6	0.4
GVG	62	0	2	1.3	-0.7	61	0	2	0	5.1	0.6
GVH	52	0	8	1.3	-0.3	49	0	6	0	5.1	1.4
GVL	48	0	0	0.9	-0.1	46	0	0	0	4.8	1.0
GVR	194	0	3	1.1	-0.1	192	0	3	0	4.7	0.6
GVT	42	0	0	1.2	0.0	41	0	0	0	4.8	1.0
GVW	74	0	1	1.2	-0.1	71	0	1	0	4.6	0.9
GVX	37	0	3	1.1	-0.2	37	0	3	0	4.7	0.6
GWW	144	0	2	1.4	-0.5	140	0	2	0	4.6	1.0
HBI	156	0	4	1.3	-0.4	154	0	5	0	4.4	0.6
HBJ	102	0	2	1.2	-0.3	99	0	2	0	3.9	0.8
IBE	1419	1	6	1.5	0.3	1389	0	5	0	8.0	0.7
ICE	607	0	5	2.0	0.2	254	0	5	0	9.1	-0.1
ISR	45	4	9	1.6	0.2	20	0	5	0	5.0	1.2
IWD	156	0	3	2.2	-0.4	155	0	3	0	7.3	0.2
KAC	108	0	0	1.5	0.8	106	0	0	0	4.5	-0.1
KLM	832	0	7	1.7	0.0	556	0	9	0	10.5	1.3
LNR	234	0	36	1.2	-0.2	222	0	37	0	4.2	0.7
LOT	177	0	5	1.8	-0.7	55	0	7	0	11.8	-0.2
LTU	574	1	9	2.0	0.0	390	0	7	0	8.7	1.5
LVG	175	1	11	2.1	0.1	138	1	9	0	9.0	1.8
MAS	83	0	1	1.5	0.3	75	0	1	0	4.9	1.0
MPD	193	0	3	1.6	0.3	163	1	6	0	9.0	-0.3
MPH	290	0	11	2.1	-0.9	177	1	16	0	14.0	0.6
MSR	127	0	0	1.3	0.5	126	0	0	0	5.1	1.1
MXJ	198	1	11	1.4	0.1	112	0	7	0	7.8	0.9
MYT	101	1	17	2.1	-0.3	68	0	16	0	10.5	0.9
NAO	33	3	12	2.2	-0.7	23	0	4	0	5.9	1.2
NOS	62	2	10	1.8	0.5	37	0	14	0	9.2	0.0
NWA	2052	0	3	1.4	0.0	1942	0	3	0	5.8	0.4
OAE	241	0	10	1.6	-0.3	100	0	31	0	15.0	4.1
OOM	57	2	4	2.2	0.8	51	0	4	0	8.7	-0.2
OYK	457	0	40	1.2	-0.3	444	0	40	0	4.4	0.9
PAC	128	1	9	1.7	0.4	82	0	10	0	8.5	0.1
PLM	83	0	0	1.7	1.1	78	0	3	0	6.2	0.8
RAM	249	0	4	1.7	0.5	166	1	5	0	9.0	0.7
RCH	279	1	100	3.5	-0.6	213	0	100	0	11.7	0.6
RZO	161	0	3	1.7	-0.4	131	0	2	0	7.2	1.1
SAS	853	0	48	1.2	-0.1	846	0	48	0	4.2	0.6
SER	371	0	49	1.5	0.1	352	0	49	0	4.3	0.5
SEU	237	2	24	2.3	0.1	187	0	24	0	11.9	1.0
SIA	360	0	0	1.2	0.3	357	0	0	0	4.9	0.6
SLM	29	0	0	1.0	0.5	29	0	7	0	8.4	0.6
SQC	332	0	0	1.2	0.0	331	0	0	0	4.9	-0.1
SWR	1471	0	3	1.4	-0.3	1445	0	3	0	5.0	0.8
TAP	293	0	1	1.3	-0.2	237	0	3	0	8.5	0.6
TCV	23	0	43	3.9	3.5	23	0	9	0	14.7	0.9
TCX	238	0	5	1.4	-0.1	228	0	5	0	6.4	1.1
TFL	99	1	15	1.5	0.0	66	5	21	0	15.1	-0.2
THT	83	0	2	1.3	-0.4	82	0	2	0	3.9	0.0
TSC	49	0	6	2.2	-0.5	32	0	6	0	10.0	-1.4
TSO	23	26	39	2.7	0.1	20	0	20	0	13.3	0.0
UAE	379	0	1	1.4	0.3	369	0	2	0	5.4	0.9
UAL	3825	0	4	1.2	-0.2	3774	0	4	0	5.1	0.7
UPS	799	0	50	1.4	0.0	448	0	47	0	5.4	0.4
USA	1718	0	2	1.2	0.1	1674	0	2	0	5.1	0.8
VIR	2602	0	3	1.2	-0.1	2493	0	3	0	5.1	0.6
WOA	219	0	9	1.5	0.4	153	0	12	0	10.0	0.7

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
XLA	36	0	6	1.9	0.9	26	0	4	0	8.0	-0.8
ZKN	55	0	0	1.1	-0.1	55	0	0	0	4.5	1.6
ZKS	98	0	2	1.1	-0.1	97	0	2	0	4.2	0.6
9VS	72	0	4	1.1	0.1	71	0	4	0	4.3	0.0

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
EU	29059	0	23	1.1	0.1	29059	0	23	0	4.2	0.5
HZ	22	0	0	0.9	0.1	22	0	0	0	5.1	0.6
N	5324	0	11	1.3	-0.1	5096	0	11	0	4.6	0.6
S	50	0	0	0.9	-0.2	49	0	0	0	5.0	0.9
US AMDAR	34032	0	28	1.2	0.3	34032	0	26	0	4.9	0.3

TABLE 10

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Dec 05

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:100 hPa.
Element monitored		:GEOPOTENTIAL HEIGHT in metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.1

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
EBUQ	12	Z	100	12	1	15.6	18.9	10.7
FQFL	00	Z	100	9	0	12.6	13.1	3.3
FQFL	12	Z	100	10	0	14.9	15.5	4.2
FQFM	00	Z	100	14	0	15.3	18.1	-9.6
FQFM	12	Z	100	13	0	23.2	23.4	-2.8
HPII	00	Z	100	3	0	21.0	29.5	-20.7
HPII	12	Z	100	6	0	18.2	23.4	-14.7
KRPD	00	Z	100	7	0	13.4	25.4	21.6
KRPD	12	Z	100	9	0	15.3	32.3	28.4
LDWR	00	Z	100	28	0	10.1	10.2	-0.5
LDWR	12	Z	100	26	0	7.1	7.5	2.5
OXGN2	00	Z	100	2	0	11.5	12.7	5.5
OXGN2	12	Z	100	2	0	22.0	29.7	20.0
OXTS2	00	Z	100	4	0	10.7	13.2	7.8
OXTS2	12	Z	100	3	0	14.1	17.4	10.3
OXVH2	00	Z	100	6	0	24.3	24.3	0.8
OXVH2	12	Z	100	8	0	20.2	21.1	6.1
OXYH2	00	Z	100	2	0	9.5	12.1	7.5
OXYH2	12	Z	100	4	0	6.7	14.0	12.3
SHIP	12	Z	100	1	0	0.0	1.0	-1.0
SKUN	00	Z	100	5	0	16.2	20.4	12.4
SKUN	12	Z	100	4	0	8.4	41.6	40.8
V2BD9	00	Z	100	13	0	10.6	16.3	12.4
V2BD9	12	Z	100	14	0	10.3	13.6	8.9
V2XM	00	Z	100	7	0	7.4	40.3	39.6
V2XM	12	Z	100	10	0	7.2	42.6	42.0
WAAH	00	Z	100	9	0	14.5	43.8	41.3
WAAH	12	Z	100	13	0	19.8	55.9	52.3
WPKD	00	Z	100	9	0	10.3	21.1	18.4
WPKD	12	Z	100	8	0	11.8	29.4	26.9
ZCBE7	00	Z	100	5	0	35.3	42.7	24.0
ZCBE7	12	Z	100	5	0	10.8	49.8	48.6
ZCBF3	00	Z	100	5	0	14.4	67.2	65.6
ZCBF3	12	Z	100	6	0	7.7	59.0	58.5
ZCBP6	00	Z	100	6	0	8.9	20.2	18.2
ZCBP6	12	Z	100	6	1	10.0	26.9	25.0
03953	00	Z	100	30	0	9.8	13.2	8.8
03953	12	Z	100	31	0	20.8	29.2	20.5
04018	00	Z	100	4	0	5.8	8.5	-6.3
04018	12	Z	100	2	0	25.5	26.6	7.5
04220	00	Z	100	30	0	10.6	10.8	2.3
04220	12	Z	100	30	0	13.1	14.1	5.2
04270	00	Z	100	29	0	16.0	19.4	-11.0
04270	12	Z	100	29	0	15.6	18.3	-9.5
04339	00	Z	100	29	0	10.6	12.4	-6.4
04339	12	Z	100	29	0	13.2	15.4	-8.1
04360	00	Z	100	30	0	8.6	9.3	-3.4
04360	12	Z	100	31	0	9.9	10.3	-2.9
08001	00	Z	100	28	0	10.0	18.0	14.9
08001	12	Z	100	22	0	12.6	31.1	28.5
08508	00	Z	100	30	0	10.9	16.9	12.9
08508	12	Z	100	29	0	11.3	27.0	24.5
08522	12	Z	100	25	0	13.7	15.5	7.2
08594	12	Z	100	20	0	9.0	10.5	5.4
71600	00	Z	100	30	0	15.4	17.1	-7.6
71600	12	Z	100	30	0	14.8	15.8	-5.7
72201	00	Z	100	30	0	9.3	11.1	6.1
72201	12	Z	100	31	0	10.7	13.3	7.9
72402	00	Z	100	30	0	8.5	18.9	16.9

72402	12	Z	100	31	0	7.9	8.2	2.3
74494	00	Z	100	30	0	12.8	16.2	-10.0
74494	12	Z	100	29	0	10.1	22.7	-20.4
78016	00	Z	100	29	0	10.5	30.0	28.1
78016	12	Z	100	29	0	9.2	30.0	28.5

TABLE 11

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Dec 05

Monitoring procedures:

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:500 hPa.
Element monitored		:GEOPOTENTIAL HEIGHT in metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.1

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
EBUQ	12	Z	500	20	1	7.1	8.2	4.0
FQFL	00	Z	500	10	0	4.9	15.3	-14.5
FQFL	12	Z	500	11	0	14.2	19.0	-12.6
FQFM	00	Z	500	14	0	9.3	21.0	-18.8
FQFM	12	Z	500	13	0	13.9	21.6	-16.5
HPII	00	Z	500	5	0	9.0	15.1	-12.2
HPII	12	Z	500	9	0	5.2	17.9	-17.1
KRPD	00	Z	500	8	0	8.3	10.3	-6.0
KRPD	12	Z	500	10	0	9.8	10.0	-1.8
LDWR	00	Z	500	30	0	9.9	10.1	1.9
LDWR	12	Z	500	29	0	10.0	10.0	0.3
OXGN2	00	Z	500	2	0	3.5	4.3	2.5
OXGN2	12	Z	500	1	1	0.0	4.0	4.0
OXTS2	00	Z	500	5	0	9.7	18.9	16.2
OXTS2	12	Z	500	5	0	12.8	18.8	13.8
OXVH2	00	Z	500	6	0	14.6	14.8	-2.2
OXVH2	12	Z	500	9	0	10.2	10.3	-0.8
OXYH2	00	Z	500	2	0	7.0	8.6	-5.0
OXYH2	12	Z	500	4	0	13.8	14.9	5.8
SHIP	12	Z	500	2	0	6.0	10.8	-9.0
SKUN	00	Z	500	5	0	11.2	11.8	3.6
SKUN	12	Z	500	4	0	10.6	17.3	13.8
V2BD9	00	Z	500	16	0	8.8	13.3	-10.0
V2BD9	12	Z	500	15	0	5.9	10.3	-8.5
V2XM	00	Z	500	7	0	4.3	31.3	31.0
V2XM	12	Z	500	10	0	8.7	36.9	35.9
WAAH	00	Z	500	10	0	11.0	23.0	20.2
WAAH	12	Z	500	13	0	15.5	30.4	26.2
WPKD	00	Z	500	9	0	4.8	8.1	-6.6
WPKD	12	Z	500	11	0	6.0	9.2	-7.0
ZCBE7	00	Z	500	6	0	30.1	30.3	-2.8
ZCBE7	12	Z	500	7	0	4.3	17.9	17.4
ZCBF3	00	Z	500	5	0	17.1	29.8	24.4
ZCBF3	12	Z	500	6	0	6.7	28.1	27.3
ZCBP6	00	Z	500	6	0	6.1	23.8	23.0
ZCBP6	12	Z	500	6	1	7.6	25.3	24.2
03953	00	Z	500	30	0	5.1	5.5	-2.1
03953	12	Z	500	31	0	10.5	10.5	0.6
04018	00	Z	500	4	0	4.3	7.6	-6.3
04018	12	Z	500	2	0	18.5	26.9	-19.5
04220	00	Z	500	30	0	6.5	6.6	-0.6
04220	12	Z	500	30	0	7.9	8.2	-2.2
04270	00	Z	500	30	0	7.9	8.2	-2.1
04270	12	Z	500	29	0	6.3	8.0	-4.9
04339	00	Z	500	30	0	10.0	10.7	-3.8
04339	12	Z	500	29	0	11.9	13.9	-7.1
04360	00	Z	500	30	0	7.9	8.4	-2.7
04360	12	Z	500	31	0	6.6	7.4	-3.2
08001	00	Z	500	28	0	6.3	6.3	0.3
08001	12	Z	500	27	0	6.9	7.6	3.2
08508	00	Z	500	30	0	7.3	16.1	-14.4
08508	12	Z	500	30	0	6.8	9.6	-6.8
08522	12	Z	500	26	0	7.2	12.2	-9.8
08594	12	Z	500	23	0	5.6	6.7	-3.7
71600	00	Z	500	30	0	6.6	7.8	-4.1
71600	12	Z	500	30	0	7.6	9.4	-5.5
72201	00	Z	500	30	0	5.7	9.6	-7.8
72201	12	Z	500	31	0	4.6	9.0	-7.7
72402	00	Z	500	30	0	8.0	8.4	2.7
72402	12	Z	500	31	0	5.1	5.1	0.8

74494	00	Z	500	30	0	8.3	9.3	-4.0
74494	12	Z	500	31	0	6.5	6.8	-2.0
78016	00	Z	500	30	0	5.6	6.7	3.7
78016	12	Z	500	30	0	6.7	8.1	4.5

TABLE 12

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Dec 05

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from selected radiosonde TEMPs.

Area monitored :0°N - 90°N, 100°W - 40°E

Standard of comparison :Background field from UKMO global model.

Position :Average latitude and longitude for period.

Observation times :00, 12 UTC.

Level monitored :100 hPa.

Element monitored :VECTOR WIND in m s^{-1}

Parameters monitored

:NUM OBS :Number of observations available at level shown during period.

:NUM GROSS :Number of gross errors at level shown during period.

:UBIAS,VBIAS :Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.

:RMS :Root Mean Square difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.2

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
EBUQ	12	V	100	9	0	0	5.7	-0.3	-0.7
FQFL	00	V	100	9	0	0	4.8	-0.1	0.5
FQFL	12	V	100	10	0	0	6.5	-1.5	1.5
FQFM	00	V	100	14	0	0	4.7	-1.0	-0.1
FQFM	12	V	100	13	0	0	4.4	0.1	0.3
HPII	00	V	100	3	0	0	3.6	0.8	2.6
HPII	12	V	100	6	0	0	3.7	-0.8	0.5
KRPD	00	V	100	7	0	0	4.5	-0.8	1.3
KRPD	12	V	100	9	0	0	5.5	-2.6	-0.9
LDWR	00	V	100	28	0	0	3.2	0.3	-0.4
LDWR	12	V	100	26	0	0	3.1	0.6	0.3
OXGN2	00	V	100	2	0	0	4.8	-1.9	4.4
OXGN2	12	V	100	1	0	0	2.8	1.2	2.5
OXTS2	00	V	100	4	0	0	3.2	0.1	1.1
OXTS2	12	V	100	2	0	0	7.4	6.4	-0.7
OXVH2	00	V	100	4	0	25	6.3	-3.8	-0.8
OXVH2	12	V	100	6	0	0	5.5	-3.3	-0.2
OXYH2	00	V	100	2	0	0	1.8	1.0	-0.5
OXYH2	12	V	100	4	0	0	1.8	0.8	-0.1
SKUN	00	V	100	5	0	0	4.4	0.3	1.8
SKUN	12	V	100	4	0	0	2.0	0.3	-0.8
V2BD9	00	V	100	13	0	0	4.9	-0.8	-0.1
V2BD9	12	V	100	13	0	0	5.2	0.4	0.1
V2XM	00	V	100	7	0	0	3.3	1.5	0.7
V2XM	12	V	100	8	0	0	4.6	1.6	0.3
WAAH	00	V	100	9	0	0	5.3	0.7	2.6
WAAH	12	V	100	13	0	0	5.0	0.0	0.9
WPKD	00	V	100	9	0	0	3.9	-0.8	-1.3
WPKD	12	V	100	8	0	0	4.7	1.3	-0.5
ZCBF3	00	V	100	4	0	0	4.4	-2.9	0.6
ZCBF3	12	V	100	6	0	0	3.9	-1.1	1.1
ZCBP6	00	V	100	6	0	0	5.0	0.1	-2.0
ZCBP6	12	V	100	7	0	0	5.1	-0.1	0.8
03953	00	V	100	30	0	0	3.8	-0.6	0.1
03953	12	V	100	31	0	0	4.1	-0.2	-0.2
04018	00	V	100	4	0	0	2.8	-0.8	0.3
04018	12	V	100	2	0	0	1.4	-1.0	0.6
04220	00	V	100	30	0	0	3.1	-0.1	0.1
04220	12	V	100	30	0	0	3.0	-0.3	0.0
04270	00	V	100	29	0	0	4.2	-0.4	0.4
04270	12	V	100	29	0	0	4.2	1.0	0.8
04339	00	V	100	28	0	14	9.6	2.7	-1.8
04339	12	V	100	26	0	3	5.7	1.2	0.0
04360	00	V	100	26	0	7	8.8	-1.2	1.4
04360	12	V	100	26	0	0	3.0	-0.7	0.3
08001	00	V	100	21	0	57	4.0	0.0	0.3
08001	12	V	100	18	0	55	4.4	0.2	0.6
08508	00	V	100	19	0	0	6.0	-0.2	-0.7
08508	12	V	100	20	0	0	5.1	0.5	0.3
08522	12	V	100	24	0	0	4.3	0.4	0.8
08594	12	V	100	19	0	100	5.7	0.4	-2.5
71600	00	V	100	29	0	0	4.0	0.3	0.7
71600	12	V	100	30	0	0	4.7	-0.9	1.1
72201	00	V	100	29	0	0	4.1	0.3	1.1
72201	12	V	100	31	0	0	3.4	-0.2	1.2
72402	00	V	100	30	0	0	4.5	0.5	-0.7
72402	12	V	100	31	0	0	5.1	1.9	-0.5
74494	00	V	100	28	0	0	4.2	-2.1	0.8
74494	12	V	100	27	0	0	4.3	-1.4	1.4
78016	00	V	100	29	0	0	5.4	0.5	0.8
78016	12	V	100	29	0	0	5.1	0.6	0.7

TABLE 13

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Dec 05

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:500 hPa.
Element monitored		:VECTOR WIND in $m\ s^{-1}$
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:UBIAS,VBIAS:	Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.2

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
EBUQ	12	V	500	20	0	0	4.0	1.1	0.7
FQFL	00	V	500	10	0	0	3.5	0.3	0.7
FQFL	12	V	500	11	0	0	3.6	1.0	0.4
FQFM	00	V	500	14	0	0	3.2	-0.3	0.5
FQFM	12	V	500	13	0	0	3.3	-0.1	0.7
HPII	00	V	500	5	0	0	2.3	-0.6	0.1
HPII	12	V	500	9	0	0	2.7	0.1	0.3
KRPD	00	V	500	8	0	0	2.8	0.2	0.0
KRPD	12	V	500	10	0	0	3.0	-0.7	0.6
LDWR	00	V	500	30	0	0	4.4	0.3	-0.7
LDWR	12	V	500	29	0	0	3.5	0.2	0.2
OXGN2	00	V	500	2	0	0	8.5	4.5	5.3
OXTS2	00	V	500	5	0	0	2.8	1.2	-0.4
OXTS2	12	V	500	3	0	0	3.6	0.9	1.3
OXVH2	00	V	500	5	0	0	6.4	0.5	1.2
OXVH2	12	V	500	8	0	12	6.3	0.2	-1.0
OXYH2	00	V	500	2	0	0	6.9	5.5	-2.3
OXYH2	12	V	500	4	0	0	4.2	-1.5	-0.3
SHIP	12	V	500	2	0	0	4.5	-2.8	0.6
SKUN	00	V	500	5	0	0	2.9	-1.0	0.3
SKUN	12	V	500	4	0	0	3.9	-1.7	0.8
V2BD9	00	V	500	16	0	0	4.3	0.3	0.9
V2BD9	12	V	500	15	0	0	3.9	-0.1	0.7
V2XM	00	V	500	7	0	0	3.3	-1.0	1.1
V2XM	12	V	500	9	0	0	4.2	-0.1	-0.9
WAAH	00	V	500	10	0	0	3.7	-0.8	-0.7
WAAH	12	V	500	13	0	0	3.3	-0.1	0.4
WPKD	00	V	500	9	0	0	4.1	1.3	-0.9
WPKD	12	V	500	11	0	0	3.2	1.2	-0.2
ZCBF3	00	V	500	4	0	0	3.4	0.2	1.4
ZCBF3	12	V	500	6	0	0	4.4	-1.1	1.9
ZCBP6	00	V	500	6	0	0	6.2	0.4	0.6
ZCBP6	12	V	500	7	0	0	5.0	1.3	1.1
03953	00	V	500	30	0	0	4.4	-0.7	0.3
03953	12	V	500	31	0	0	3.7	-0.5	0.2
04018	00	V	500	4	0	0	4.4	0.6	-3.0
04018	12	V	500	2	0	0	2.9	0.7	-2.3
04220	00	V	500	30	0	0	3.8	-0.9	0.0
04220	12	V	500	30	0	0	3.3	0.0	-0.2
04270	00	V	500	29	0	0	4.5	0.6	0.4
04270	12	V	500	29	0	0	4.1	0.7	-0.8
04339	00	V	500	29	0	10	13.2	-1.0	1.8
04339	12	V	500	27	0	0	6.9	-0.3	0.5
04360	00	V	500	30	0	0	5.4	0.7	-0.5
04360	12	V	500	28	0	0	4.6	-1.0	-0.7
08001	00	V	500	27	0	59	5.6	0.5	0.0
08001	12	V	500	23	0	56	3.8	-1.0	-0.3
08508	00	V	500	19	0	0	3.7	-0.4	-0.6
08508	12	V	500	21	0	0	3.6	-0.5	0.1
08522	12	V	500	26	0	0	4.6	0.4	0.3
08594	12	V	500	23	0	0	4.5	1.3	-0.7
71600	00	V	500	30	0	0	4.6	-1.3	0.3
71600	12	V	500	30	0	3	6.1	-0.2	0.6
72201	00	V	500	30	0	0	2.6	-0.2	0.8
72201	12	V	500	31	0	0	3.5	-0.3	0.8
72402	00	V	500	30	0	0	3.7	0.8	0.1
72402	12	V	500	31	0	0	3.8	0.5	0.0
74494	00	V	500	29	0	0	3.7	-1.7	0.6
74494	12	V	500	31	0	0	4.9	-1.6	0.5
78016	00	V	500	30	0	0	3.6	0.2	0.1
78016	12	V	500	30	0	0	3.3	0.3	-0.6

APPENDIX I

1. The gross error limits for observation minus background differences of geopotential height in Tables 5, 10 and 11 are:-

Level (hPa)	Geopotential height (metres)
1000	100
850	100
700	100
500	150
400	175
300	200
250	225
200	250
150	275
100	300
70	375
50	400
30	450

The weighted RMS values used in Table 5,10 and 11 are calculated using the following weights:-

Level (hPa)	Weight
1000	3.70
850	3.40
700	2.90
500	2.20
400	1.90
300	1.60
250	1.50
200	1.37
150	1.19
100	1.00
70	0.87
50	0.80
30	0.64

2. The gross error limits for observation minus background differences of windspeed in Tables 6,12 and 13 are:-

Level (hPa)	Windspeed m s^{-1}
1000	35
850	35
700	40
500	45
400	50
300	60
250	60
200	50
150	50
100	45